The essential magazine for Amiga enthusiasts

AMIGA SHOPPER

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Issue 54 October 1995 £3.99



Brave new world

Could World Construction Set surpass VistaPro?

Protext Utilities

Full details of disks on back cover

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Sound blaster!

Everything you need to make your music rock



ShopperReviews



- Zip 100: A revolutionary storage method – all serious users must read our review.
- Real 3D v3: Could it be better than LightWave?
- Panasonic Dual: New technology brings a CD drive together with the ability to write 650Mb.
- SquirrelQuad CD-ROM drive: Four times faster, but do you feel the need for speed?
- AIWA SC-C55 speakers: Well-designed multimedia speakers to bring your Amiga's sound to life.
- Apollo board: Speed up your A1200 for only £99.
- Plus! Brand new CD-ROMs.

ShopperTutorials

DTP
A brand new tutorial starts by explaining why the Amiga is the best computer for desktop publishing.

Photogenics
Paul Nolan takes us through image creation in the last of our seven Photogenics tutorials.

DICE
The final part of DICE deals with Function Pointers. (The listings are on ShopperChoice.)

Comms
Create your own World Wide Web pages with our introduction to using HTML documents.

Amigas make it possible

Just why is the Amiga the greatest multimedia computer in the known Universe? Amiga Shopper uncovers the hidden truth...

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From the makers of AMIGA FORMAT

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The **essential** magazine for Amiga enthusiasts

AMIGA SHOPPER

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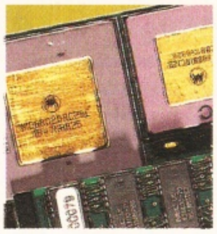
ABC **Member of the Audit Bureau of Circulation**
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Inside issue

We have a great issue for you this month, with a complete music low-down, and our experts pay homage to the Amiga...

We rang Jonathan Anderson of Amiga Technologies GmbH (UK) to go through a long list of questions asking for more information about the new Amigas and their plans, but he wasn't very forthcoming at the time. The reason being that Amiga Technologies are holding a press conference where they intend to announce their plans to all the publishers, distributors and developers at the same time. Turn to our news stories, starting on page 14, to find out what he did have to say. You'll have to wait until next month for the full story.







The past year or so has been a trying time for the Amiga and its users, but just why have we stuck with our Amigas and how would we like Amiga Technologies to develop the technology? Amiga Shopper asks six of our regular writers why they have stuck with their Amiga, what their Amiga set-up is and what they would like to see included in the new Amigas. We also asked them to tell us their top 10 Amiga products of all time.



Not content with our feature on the pop group Alien Race, where we gave you lots of advice about how to start in the music business, this month we asked music buff John Kennedy to investigate the best music packages and hardware on the Amiga. He also brings you some handy musical hints and tips. There's nine pages packed with useful advice for you.



Plus, we got together with AIWA to bring you a competition for five readers to win one of two of their excellent ACD-300 CD-ROM drives or one of three sets of SC-C55 multimedia speakers. We've tried out both products and they're so good that you'll kick yourself if you don't have a try! Turn to page 96 now.

And don't forget the Coverdisks. I think you'll agree that David has put together another stonking collection for you. He tells you all about them starting on page 6.

See you next month! ■



Sue Grant
Editor

Turn the page for the contents of issue **54**

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You can also contact us, or browse through a selection of Amiga articles, tutorials etc. on FutureNet. Point your WWW browser at:
http://www.futurenet.co.uk

EDITORIAL Send all press releases, feature submissions and ideas to Sue Grant.
E-mail: sgrant@futurenet.co.uk

COVERDISKS If you have a contribution, commercial or otherwise, that you would like to submit for consideration for the Coverdisks, send it to David Taylor.
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Amiga Shopper

The **essential** magazine for Amiga enthusiasts



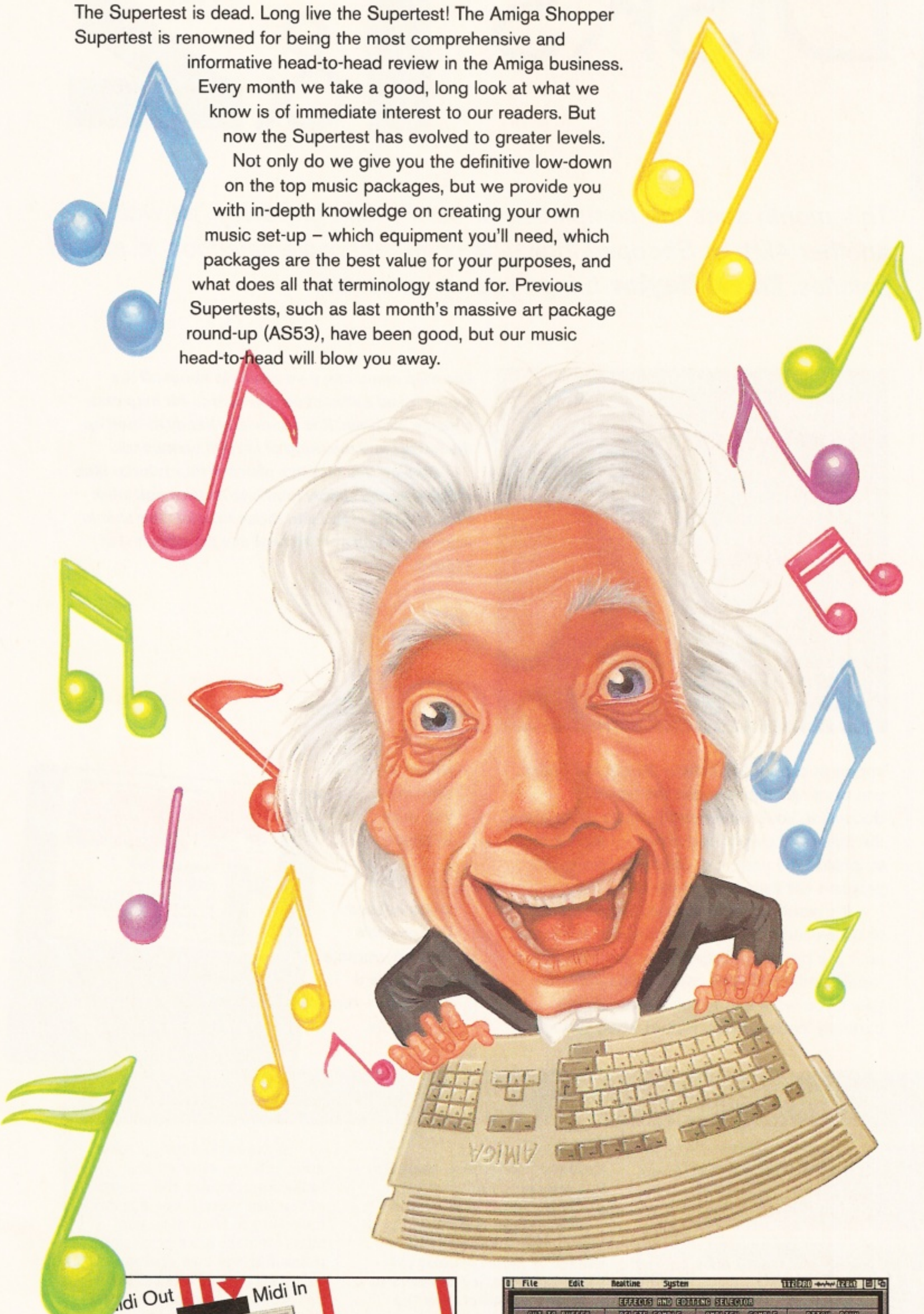
Hi-Soft's Zip 100 drive could be the first step towards the next generation of data storage.

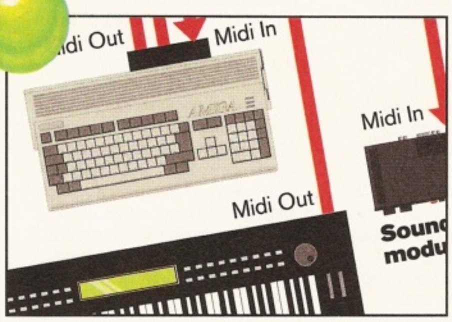


Produce beautifully rendered scenes like this globe with World Construction Set.

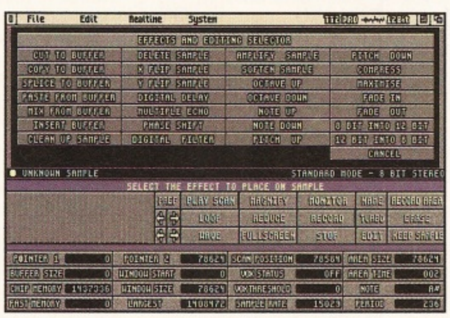
Sound blaster! ________ 24

The Supertest is dead. Long live the Supertest! The Amiga Shopper Supertest is renowned for being the most comprehensive and informative head-to-head review in the Amiga business. Every month we take a good, long look at what we know is of immediate interest to our readers. But now the Supertest has evolved to greater levels. Not only do we give you the definitive low-down on the top music packages, but we provide you with in-depth knowledge on creating your own music set-up – which equipment you'll need, which packages are the best value for your purposes, and what does all that terminology stand for. Previous Supertests, such as last month's massive art package round-up (AS53), have been good, but our music head-to-head will blow you away.





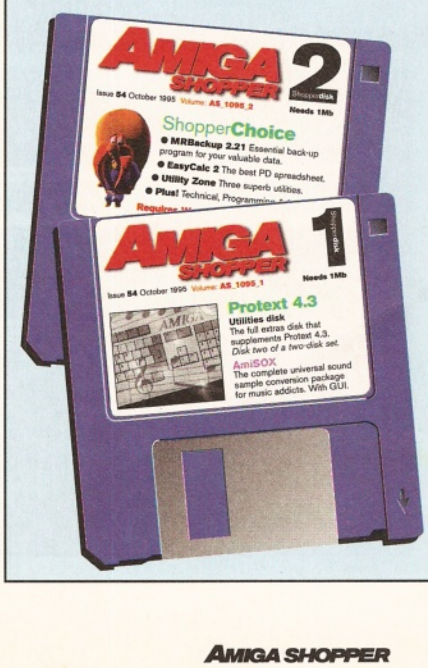
In this month's Supertest (page 24), we fully explains the innards of MIDI.

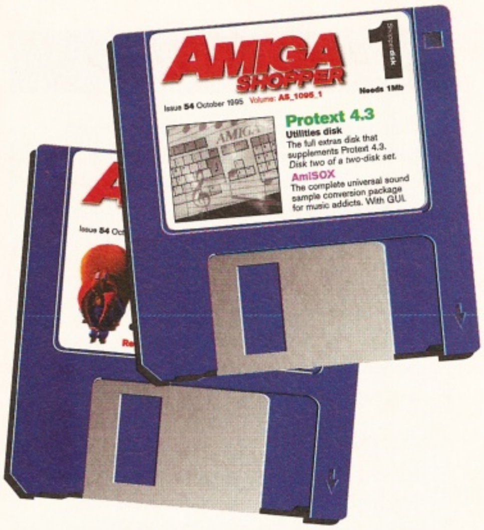


To read about the new version of TechnoSound Pro turn to page 24.

Shopper**Disks**

This month's Coverdisks are once more bursting with over 4Mb of applications and utilities. There's something for everyone, with all the programs placed in appropriate zones to help you find what you need.





Disks 1 & 2

This month sees the completion of our Protext giveaway, as well as another 4Mb of ShopperChoice. A comprehensive selection to suit all palettes. ***David Taylor*** *brings you up to speed.*

Bursting with useful programs. That's what this month's disks are. Positively bursting! There's the Utilities disk to complete our Protext give-away (if you missed last month's disk, order a back issue now – see page 81). And ShopperChoice is as packed as ever, with everything from a sample convertor to a spreadsheet. Plus! there's a back-up system, essential utilities, a top Technical Zone, a full 3D selection and much more!

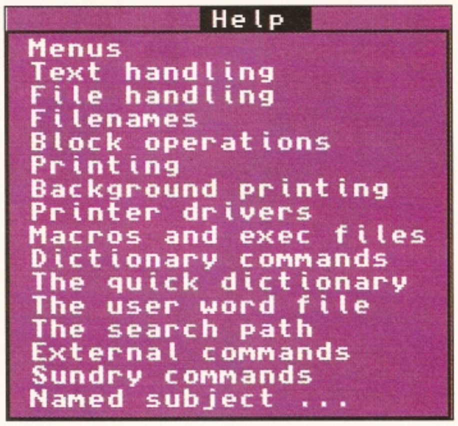
Protext 4.3 Utilities disk

To use the utilities, you need to either boot your Protext disk from last month's AS, or, if you have it installed on a hard disk, double-click on the Protext icon. This disk supplies you with the full dictionary, the configuration editor, the conversion program and extra printer drivers.

Some of these programs can also be loaded by double-clicking on their icons independently of Protext, so the program doesn't need to be running to use them.

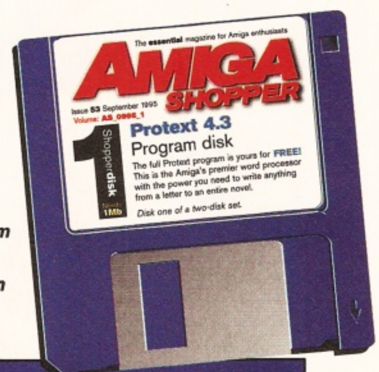
The conversion program is very easy to use. When you load it, you are offered a menu to import or export documents. Select the option you want and then choose the type of document. You'll then need to enter the name of the input and output documents – don't forget to include the path, e.g. dh1:temp/doc1. The program will then convert the text.

It's worth noting that these programs can also be used from the command line in Protext, so if you press the Escape key, you can type in "spell" and it will spell-check a document for you. If you want it to check the document currently loaded, press Return when you are asked which document you want to check.



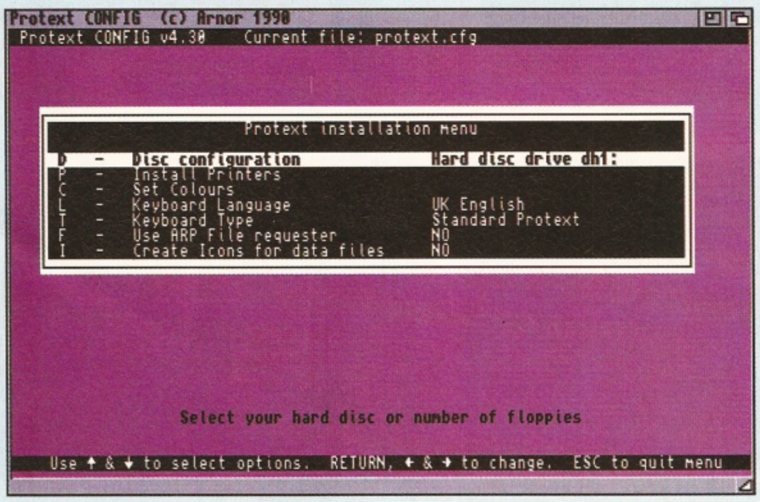
The help menu can give you help about all the topics listed here or you can search for help on a specific problem. It is especially handy to look up the syntax and meaning of certain commands.

Also on this month's disk are four tutorial files which you can simply load into Protext and work through. This menu and these tutorial files should ensure you can get the best use possible out of Protext.



If you missed last month's Protext program disk, order a copy now – turn to page 81.

Configuring Protext with the editor



When you start the Configuration Editor, there are two submenus of interest: Initial Installation and Main Configuration. The initial installation gives you the chance to adapt Protext to your hardware, for example to a hard disk, rather than the initial one floppy.

To move through the options, you can click with the mouse or use the arrow keys and return to select.

If you set Protext to a hard disk, note that you must change certain other parts too (read the following part about the main configuration options). In the Printer driver options, you can set the default printer to any of the drivers supplied.

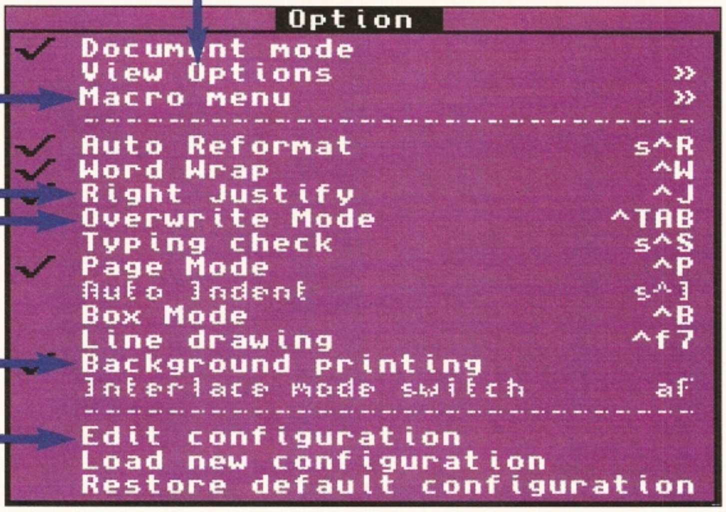
In the main configuration area, you can alter all the other aspects, like the length of the text ruler. If you set the hardware to hard disk, you must also set the search path in the file and disk options. Mine, for instance is set to: dh1:wp/as54_protext4.3_utils/. It's also a good idea to set the temporary text path.

If you want to change the font, you can enter the name of a bitmap font that is in your fonts directory. If you've booted from floppy, you need to copy the font across to the fonts drawer on the Protext disk. If you want some new fonts, take a look at this month's Creative Zone.

Most of the configuration is very easy to understand.

You can set and record or use macro shortcuts to save on typing.

These options govern the screen display, whether it shows return codes, tabs or spaces.



A simple way to justify your text so that it is flush with both margins.

Swaps between inserting and overtyping.

Sets the printing to multitask so you can type while Protext prints.

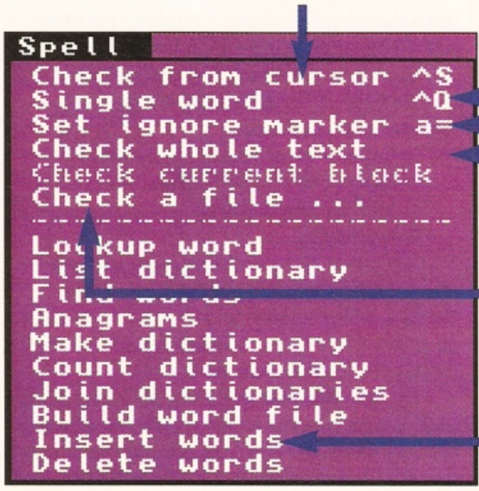
Here is where you launch the Configuration Editor from Protext – see the box on page 6.

Hints and tips

● If a blank line is printed after each line of text the printer is automatically feeding a line, which is a feature of printers that is required by some software, but should be disabled for Protext. If you don't know how to do this for your printer, you can use the configuration to ignore line feeds in the printer driver options.
● £ signs are printed incorrectly? The letter P appears at the top of every document? You've got the wrong printer driver, change it to a more appropriate one.
● If printing italics doesn't work, you may have the printer set to IBM mode, which doesn't support italic print.
● Problems with £ signs appearing as # and other similar keyboard quirks are due to the setting of the keyboard layout. Check the config to make sure its set to UK.

Spell-check the current document from the point where your cursor is in the text.

Look up a single word. The spell-checker checks the word that your cursor is inside.



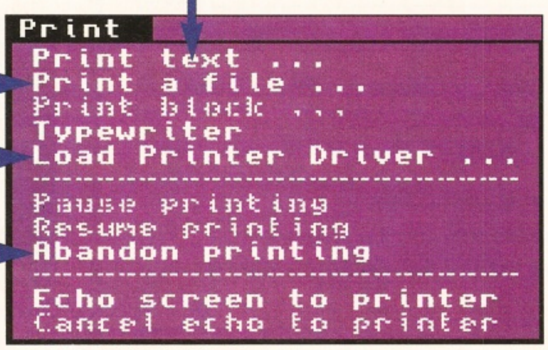
Set a marker so that the spell-checker ignores certain words.

Spell-check the entire text of the current document.

Allows you to spell-check a file that isn't held in memory directly from disk.

Add and delete words from the dictionary so that common idiosyncracies are ignored.

Moves you to the print screen (see page 8) to print out the current document.



Moves you to the print screen (see page 8) to print out a document not held in memory directly from disk.

Allows you to load a different printer driver to ensure that the best print quality is achieved.

If you have a document being printed, you can stop it by abandoning the printing.

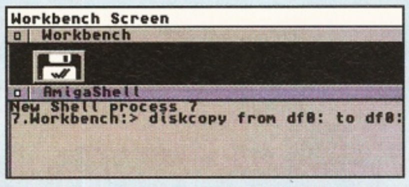
Beginners, look!



Before using either of this month's Coverdisks, please be sure to back them up – just in case. Simply follow the easy instructions below.



1 ***Boot up from your Workbench disk or partition, double-click on your Shell icon – to be found in your system drawer.***



2 ***If you only have one disk drive, type in the following line and then press return.***

```
Diskcopy from DF0: to DF0:
```

If you have two drives, place the Coverdisk in DF0: and a blank in DF1:, then type in this line instead.

```
Diskcopy from DF0: to DF1:
```

3 ***Follow the on-screen prompts and remember that the Coverdisk is the source disk and the blank is the destination.***

4 ***If you used the two-drive method, remember to rename the copy by clicking on its icon and pressing right-Amiga r.***

5 ***If you have two drives, you can also copy the disk from Workbench by dragging the Coverdisk icon over the destination disk's.***

6 ***Then place either of the Coverdisks in df0: and reset the Amiga to boot it. It is best to boot disk 1 (or the Subs disk if you're a subscriber). This will let you install all the disks to either floppy or hard drive.***

Dodgy disk?

To avoid errors when installing to floppies, ensure that your destination disks are of high quality. If an error occurs, try re-booting and using a different spare disk – the majority of errors are caused by faulty destination disks.

If your Coverdisk absolutely refuses to work and you are certain it is faulty, please return it, along with an S.A.E., to:

Amiga Shopper Coverdisk
(insert the name of the disk),
Discopy Labs Ltd., PO Box 21,
Daventry, NN11 5BU.

▶ 8

Printing text from Protext...

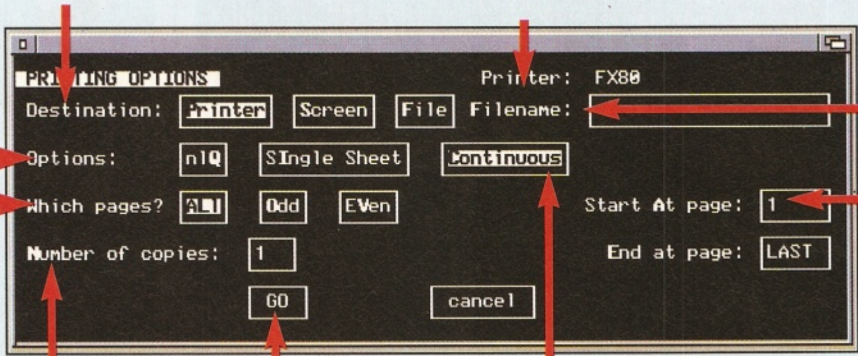
You can print a file out to different destinations, which will normally be the printer.

Informs you which printer driver you have selected for this print job.

Gives the name of the document you are preparing to print.

The quality of the printout can be either draft quality or near-letter quality.

Select which pages you want to print out: all, odd or even.



Set the pages you want to print, with a first and last page, so you can print a part of a document.

You can print multiple copies of a document in one go, rather than setting it to print each time.

Start the printing with the options you've chosen (or cancel).

Set your printer for single sheets or continuous, depending on whether your printer has a paper tray.

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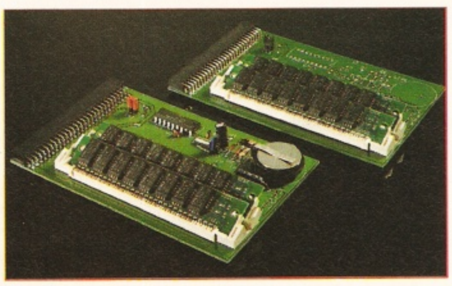
You've seen our sensational Coverdisk with the complete version of the excellent Protext 4.3 (AS53 and AS54), now you can take advantage of our special offer just for Amiga Shopper readers. We're giving you the chance to buy the full Protext manual, or you can upgrade to version 6.61.

The manual ensures you get the full benefit of this amazing program and it costs only £14.99. And if you act before the 31st September 1995, you can upgrade to the full version of Protext 6.61 for just £49, saving £30. Some of the extra features in 6.61 include:

- Support for different fonts and styles
- Many additional commands
- Mail merging ability
- File sorting

The programming team that brought us Protext also produced an excellent database called Prodata, which is ideal for name and address files used in conjunction with Protext's mail merge. You can buy Prodata for only £49.

To make the most of Protext 6.61, and many other programs, your Amiga should be upgraded to 2Mb. Amiga Shopper has secured some special prices on the most reliable trapdoor Amiga memory upgrades (see left).



To help you get the most of Protext 6.61 and other programs, extra memory is the answer.

▶ 10

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CYBERVISION 64

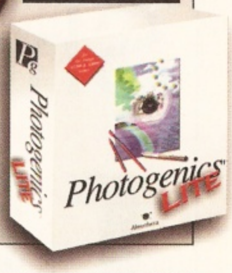
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A1200 with 1230-IV, '030 & 4Mb	9.91
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A1200 with 1260, '060 & 4Mb	37.40
A1500 /2000 with 2060, '060 & 4Mb	37.40
A4000 with Cyberstorm, '060 & 4Mb	39.85

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Figures shown in our chart are in MIPS and are taken from comparative performance tests using SysInfo

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[1]*Available 3rd Quarter '95* [2]*Available 4th Quarter '95*

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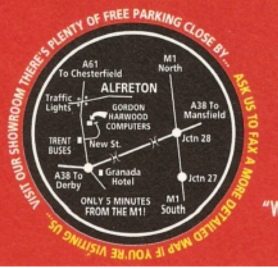
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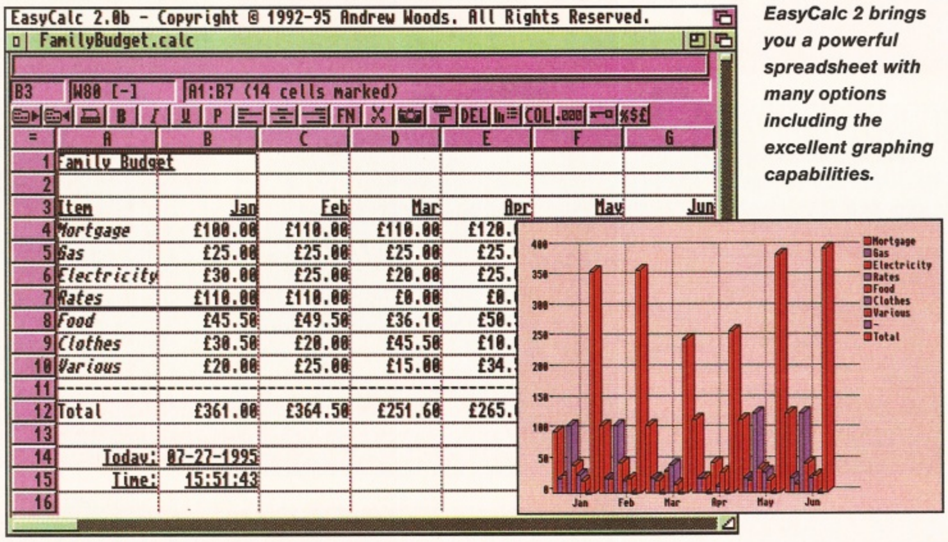
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ShopperChoice

The AS selection of juicy PD and Shareware prime cuts is divided into zones, so you can dive straight into the area that interests you. With around 4Mb of stuff here, if you don't find something of interest I'll eat my hat!

The Application Zone contains three whoppas – a sample convertor, a spreadsheet and a back-up program. After seeing the Utility Zone you'll cry with joy – Yak 2.02 for your Workbench; WinPlay, which plays animations in a window; and Library Manager to help you safeguard your system. On the heavy-duty side there's Technical Zone with CLI commands, programs and a datatype. Sexiest is 3D Zone, bursting with Imagine stuff, but don't ignore Creative Zone with its demo, fonts, samples and a module. Last, but not least, is the Programming Zone.



EasyCalc 2 brings you a powerful spreadsheet with many options including the excellent graphing capabilities.

ApplicationZone

AmiSOX 3.3

AmiSOX is a complete sound sample convertor that can not only convert files from different platforms, but can also add certain effects to your samples, too. Although AmiSOX works from the Shell, a superb graphical user interface has been designed, as you can see in the box on page 11, to make it easy to use. The full application decompresses to two disks, with AmiSOX on one disk and the GUI and sample player, OmniPlay, on the other. To make use of everything with the minimum fuss, simply double-click on the SoxGui icon in the SoxGui drawer, and it will automatically access all the other programs for you.

I highly recommend that you use the GUI. The preferences for the GUI are set up for floppy users, and if you have two disk drives, save on disk swapping by keeping the second disk in your spare drive.

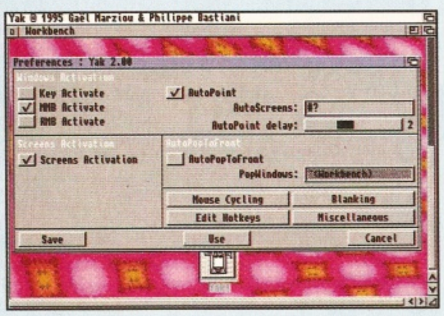
If you are hard drive user, make sure that you install both Zone parts (1&2) to the same directory. Then, click once on the icon of SoxGUI and select Information from the Icon menu on Workbench. You should delete the "Soxpath" that is there and activate the one underneath, by editing out the brackets and "(HD)". Don't forget to press return to confirm the change and then save it. The path will now be set for you.

If you just want to make use of AmiSOX from the Shell, take a deep breath and read the documentation. OmniPlay, the sample player we've included, can be used separately, but, like AmiSOX, runs from the Shell, so it's easier if you use it from SoxGUI.

EasyCalc 2

Recently found in our PD section receiving Star buy of the month with a cool 95 per cent, our PD reviewer raved, "It's not often that you find a PD program that can truly hold its own against commercial offerings, but EasyCalc is just that."

UtilityZone

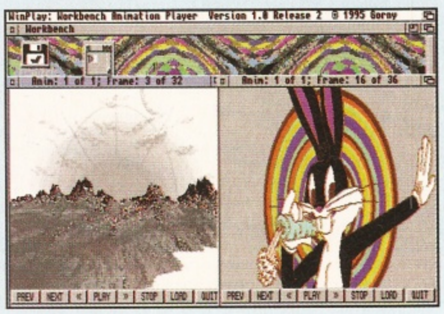


Yak 2.02

Yak has always been one of my favourite commodities. This is a brand new version that has undergone a whole facelift. Yak offers you the chance to customise many of the key areas of your Workbench.

There is an installation script to make life easier for you. The program starts every time you boot up. There is also a Preference editor to allow you to change the way Yak acts.

You can adjust the way screens are activated, how the mouse works, add hotkeys for masses of events, like executing commands or cycling windows. You can even activate the use of wildcards on your system.

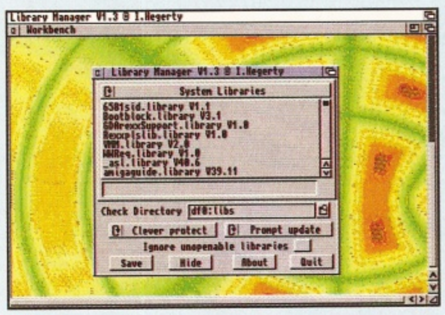


WinPlay

Have you ever wanted to play an animation, but not as a full screen? Want to compare anims, or play them on your Workbench screen?

This program lets you do exactly that and more. You can play more than one animation at a time. The number of animations being played in separate windows is limited only by your Amiga's capabilities.

To use the program, just double-click on it and then select the animation you want to play. The animation will be shown within the top part of WinPlay's window. To play another animation at the same time, load another copy of WinPlay and insert another anim.



Library Manager

The Amiga's system of shared libraries, where different programs make use of the same library to cut down on programming is great, but it can cause problems. In fact, it's probably the largest cause of dismay amongst new users.

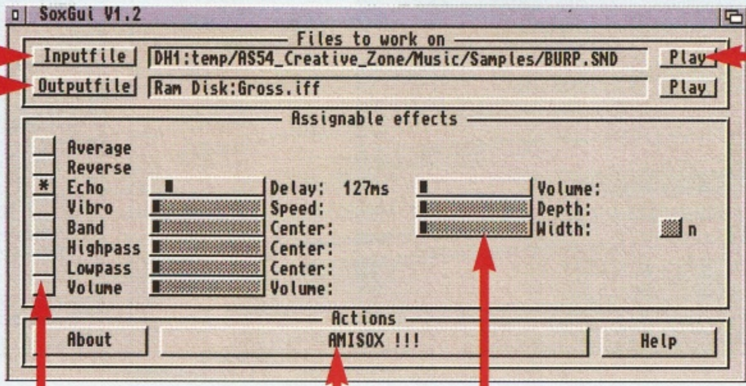
Library Manager is a program that overcomes a few problems. It maintains a list of your libraries and checks every disk you insert for any new libraries, or even more recent versions of ones you have, and offers to install them. What's more, it will also protect your libraries against badly written installation scripts that try to write earlier versions of libraries to your Amiga's libs: drawer.

AmiSOX graphical user interface

Click here to choose the input file. Ensure, if possible, that it has the correct extension, e.g. sample.wav.

Click here to enter the output filename. You must enter the extension so AmiSOX knows what format you want to convert to, e.g. sample.iff.

Clicking on one of these selects the affect you want to apply to the sample when you convert.



This button starts the conversion. Make sure the path to AmiSOX is correct in the icon tooltypes.

These options and those on the left dictate the degrees of the effects, like the amount of delay before an echo occurs.

The play button invokes OmniPlay to play the sample for you from here. Check the path in the icon tooltypes.

AmiSox can also be used from the CLI, but it is extremely complicated and it is much easier if you use this interface. The tooltypes are set for floppy disk users, but can be changed for hard disks easily. Read the docs.

EasyCalc is a powerful spreadsheet that offers a comprehensive range of functions. It is capable of extremely complex calculations within cells and offers ARexx support (over 60 commands). Each option is easy to access with the keyboard, or through the icons or menus. With the addition of the advanced graphing functions that allow you to display and save your worksheets in a number of different formats, from simple bar charts to 3D pie charts, EasyCalc is a very useful addition to your business software.

You don't even need to be a business person to have a use for this. From home accounts to livening up any documents, from school projects to survey results, EasyCalc combines power and ease.

There are three types of data you can input: string constant, numeric constant, or formula. The first two are simply letters or numbers, but the third is the real start of the spreadsheet's use. Entering a formula means that the program makes the specified calculations based on entries in other cells (a cell is a single box, one row by one column). In the simplest way, this means you can create such things as running totals, so that every time you input data, the total changes – useful for accounts or budgets. This is the most minor application of the formula – you aren't just limited to simple addition, extremely complex formulas can be entered. There's everything from the usual plus/minus/ multiply/divide up to hyperbolic sines and converting radians to degrees!

As you can see from the pictures on page 10, the program is very slick – even the program's palette and graph palettes can be set separately.

Aside from the extensive guide on both the spreadsheet itself and on the ARexx commands, there is also on-line help. If you do need help whilst using the program, just hit the Help button. In order to have all the features running, you need to ensure that you have the necessary libraries installed. You should already have most of them on your system, but two of the non-standard ones are included in the EasyCalc directory. If you need to, copy the amigaguide.library and reqtools.library into the libs: drawer on your Sys:. You can do this either from the Shell or from Workbench (you need to show all icons to see the files) – refer to your Workbench manual for more details.

MRBackup 2.21

As our computers become more and more advanced our collection of data expands in unison. In response to that a set of back-up programs has emerged. If you have any mass storage device, particularly a hard drive, it's essential that you back-up your system regularly, because believe me, you'll regret it if your system gets corrupted. Users have been seen to break down in tears as they are forced to re-format a drive because of corruption, with no way of retrieving their lost data.

Because backing-up data is frankly a pain in the bum, it's best to get a program that makes it as painless as possible. Although commercial products do exist, a lot of PD programs have overtaken them recently. MRBackup is one of the best ones around. It allows you back-up to floppy disks in either AmigaDos or 'fast' format, or to any sequential file or device (local or networked) in 'fast' format. It even supports tape streamers.

When you use it, a saveset catalogue is produced, to allow you to quickly retrieve individual files when necessary. Even if this catalogue becomes damaged, MRBackup can create another by scanning the saveset itself.

Because it is designed to be fully multi-tasking, you can continue to work with your Amiga as it performs a back-up. In addition, it can use the computer's speech capabilities for prompts, such as disk insertions, to make it easier to use. There is also a form of compression you can use so that the amount of backup media (i.e. the number of floppy disks) is reduced.

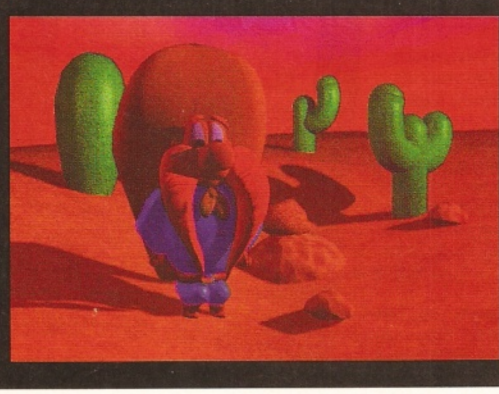
The documentation gives you full details of the program's operation. Note that you should assign MRBackup to the correct directory, e.g.

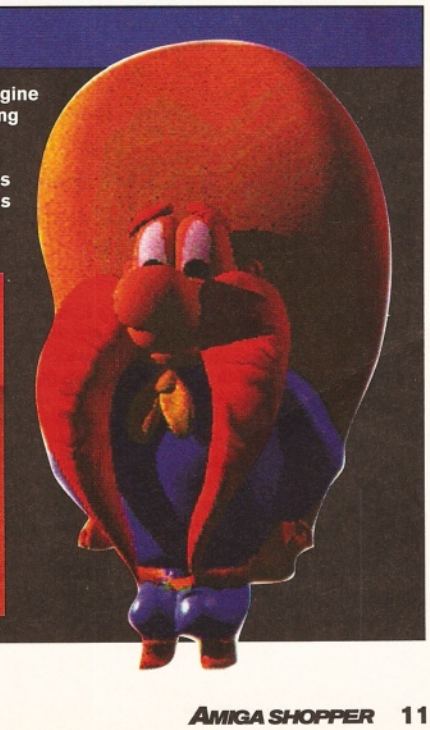
▶ 12

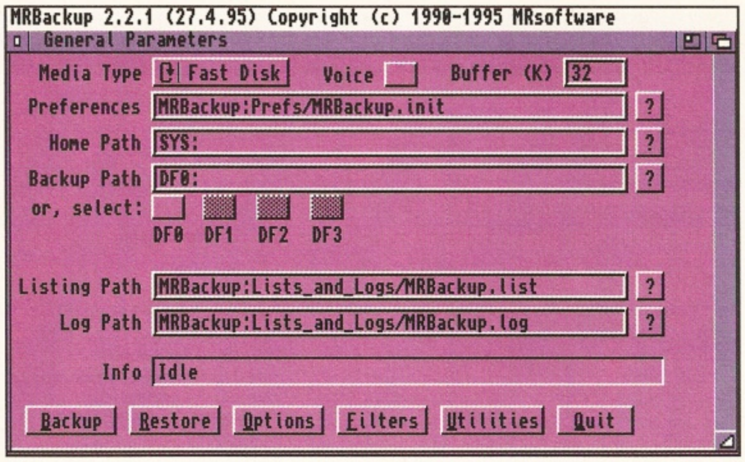
3DZone

This month the 3D Zone is a real treasure trove for Imagine users. There is the whole scene pictured below, including the huge Yosemite Sam object, which has won our Amiga Answers competition this month.

But wait! There is more! There are also eight utilites for Imagine 3.x. These utilites perform useful operations on staging or object files. They are both ARexx scripts and binary files.







MRBackup is a very useful program, making backing up your data for safety very easy indeed.

type: assign MRbackup: AS54_Choice3:AS54_Application_Zone3/MRbackup.

Technical**Zone**

This month's Technical Zone includes some excellent programs for use by the more serious user. In the datatype directory, you'll find the Targa datatype for use on Workbench 3 machines and above. The other programs are for use with any suitable Amiga.

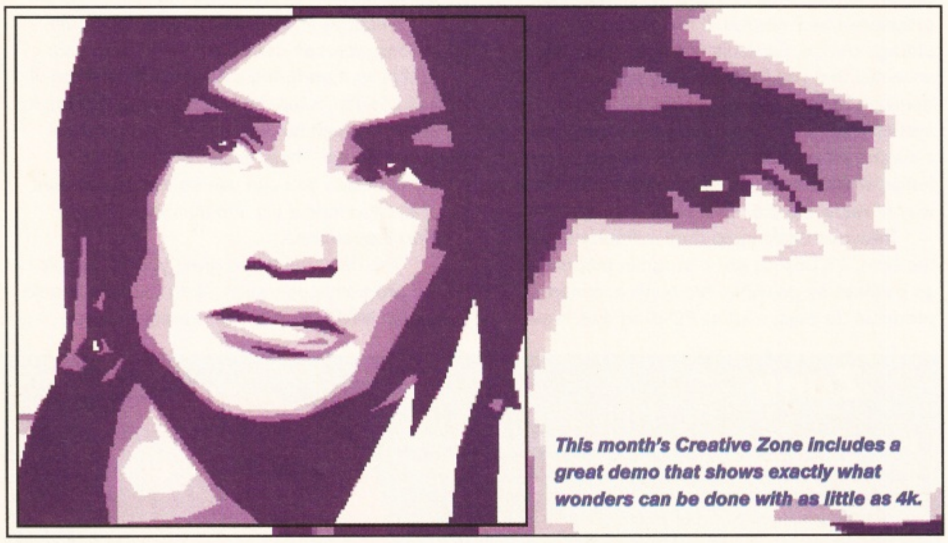
● **XDM** is an interface which allows you to pack entire disks using the most efficient archiver available, LZX. AS uses LZX to store the files on the Coverdisks. This new development allows you to store any type of disk, even non-DOS ones, like demos. Because it is so much more efficient, the resulting archives are much smaller than the DMS files that have traditionally been used for these type of disks. You need a copy of LZX in order to make use of this, and you can get evaluation copies from PD libraries or from Amiga Format's Coverdisk on Issue 74. A read of the docs is definitely advised.

This program is based on code by Adam Chapman, who is finishing off version 2 of the original XDM. Although the different versions have sprung from the same base, future releases may differ quite surprisingly. Adam is sending AS a copy of version 2 for the disks as soon as it's ready. If you can't wait, though, you can try the Concrete Cow BBS, home of XDM, on ☎ 01908 584961. It's a 24-hour BBS supporting anything up to V.34 modems.

● **Proc** is a great little program – well, program doesn't really fully explain this. It is a virtual filesystem which allows you to retrieve information about processes, screens, ports, etc. Not only that, but it gives you power over these things from the Shell, so you can delete things like windows. All you need to do is copy the handler to your l: directory and then mount proc:, using the icon supplied. When you've done this, try it out by typing: list proc:.

● The normal 'I' command doesn't support wildcards in 'If exists' statements, so this replacement **IfExists** command has been created to allow you make use of them.

● **CDRun** is another command that is designed to make your life easier. When you run certain commands, you need to change to the correct directory for it to find files. This command does it all and then returns you to the original path.



This month's Creative Zone includes a great demo that shows exactly what wonders can be done with as little as 4k.

Creative**Zone**

The Creative Zone contains a music module and some samples (which you can make use of with AmiSOX in this month's Application Zone). You need a module player to listen to the music. There is a also a collection of fonts and a demo, which can be run by double-clicking on the Run icon, although it is AGA and you may have to adjust memory if you have boards plugged in.

Programming**Zone**

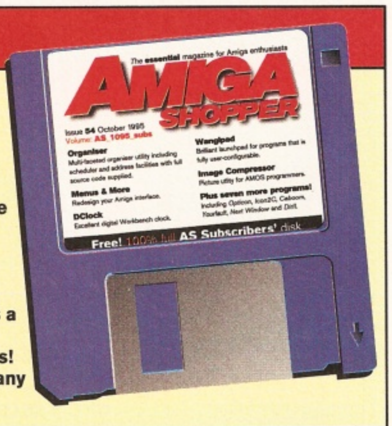
As promised, this month's Zone includes the BASIC interpreter that Toby discussed last month. You can also find the listings for the final Assembler tutorial that were omitted last month and this month's DICE listings. The tutorial itself can be found on page 76. ■

Disk contributions

This month's disks were compiled using files from Aminet and from Walton's Mountain BBS, ☎ 0181 891 5730, and with the help of the authors of the individual programs. The Imagine objects were supplied by the Imagine User Group, 44 Brampton Close, Corringham, Essex, SS17 7NR, ☎ 01375 670036.

If you would like to contribute to a future disk, whether it's a full application, utility, 40K demo, clip art, font, 3D object, or even a module, send it to: David Taylor, Amiga Shopper Coverdisk Contributions, 30 Monmouth Street, Bath, Avon BA1 2BW. Remember, the smaller it is, the more chance that it will be included.

Subscribers-only disk



Every month we pack as much on to our two Coverdisks as we can, but there's always so much more we want to supply. That's why subscribers, as well as making huge savings on the price of AS, also get a third, exclusive disk, FREE every single month.

This issue is no exception and the disk includes a huge organiser, with full source code. There's also Menus & More, a program to help you design your Workbench. Wangipad is a Workbench utility for launching your programs from one easy-to-find-and-use window. DClock gives you a brilliant digital clock and Image Compressor is a must for all AMOS programmers.

In addition, there's another seven, yes seven, programs! If you're not a subscriber yet, you can't afford to miss out any longer. Turn to page 80 to find out how or ☎ 01225 822511.

Shareware notice!

Remember that a number of the programs on these disks are some form of Shareware. AS have compiled the disk with the help of the authors, who have received no fee from AS. So, if you keep and use these programs, you *must* register. Some people only want a postcard, so *please* put in the effort. They did when creating the program.

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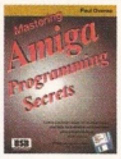
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News

This month in Amiga Shopper's news: Amigas set to hit the shelves, but at what price?; accelerator boards; Amigas at Live '95. And more!

Nice new Amigas, but what about the price?

The new Amiga 1200s will cost £399 and the ones with 175Mb hard drives will be slightly more expensive, according to Jonathan Anderson of Amiga Technologies UK. The A1200s will have 68020 processors and an upgraded Operating System to Workbench 3.1. There will be around 60,000 A1200s for sale in the UK at first. All the A1200s will be bundled with a software package, although Mr Anderson would not reveal the contents of that yet. We're all looking forward to new Amigas being back on the shelves, but the relatively high price of the machines may put some people off buying them.

A1200s will be manufactured in France at ex-IBM factory Selectron, in Bordeaux. According to Jonathan the facilities there are "second to none". The good news is that because of this very central European site there won't be the six-week delay in getting Amigas to Europe that was experienced in the past – because the machines were manufactured in the Philippines and had to be sent to the UK by ship. So they will come straight off the production line into the shops.

And for the first time no standalone Amigas will be available, which should help stop grey importers – plus Jonathan assured me that the A1200 box will be very difficult to copy. Jonathan is prepared to "do everything I can to stop grey importing". He is also very keen on stamping out piracy in the Amiga market, and is hoping to set up a special anti-piracy body which would physically employ people to investigate suspected cases of piracy and raid premises if necessary – with the aid of the authorities. He intends that the body will be open to all Amiga publishers, manufacturers and developers to join for a nominal fee.

> "The relatively **high** price of the machines may put some people off."

Amiga Technologies will not be repairing faulty Amigas if they are still under warranty with ICL. Anderson said that Commodore UK paid a substantial amount of money to ICL to carry out repairs and that Amiga Technologies "can't support the old companies' product". But, obviously, there will be spare parts available for A1200s and presumably A4000s once Amigas start coming off the production lines again.

The contents of the software bundle, the advertising campaign (if any) and more about Jonathan's piracy campaign, along with any other new information will be announced at an Amiga Technologies press conference on 16th August in Heathrow. Unfortunately, we go to press with this issue before then, but Amiga Shopper will be at the press conference and we'll bring you the full report of all the new developments next month.

New Amiga logo

AMIGA

As those of you with access to the Internet will have seen, the new Amiga logo has finally been chosen. According to Frogdesign, who designed the new logo: "The Amiga wordmark evokes both a classic and elegant feel as well as a modern look. Bodoni, the font selected to build upon, is a classic font. Further refinements involving the manipulation and subtraction of serifs and the addition of the red square create a progressive, yet elegant logo. The red square represents technology and adds energy to the logo by implying a sense of motion."

Um... No comment!

Titbits

Get Active!

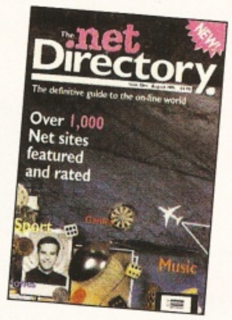
Active Software's phone number was wrong in the review of the Zoom CD in AS53. It should be ☎ 01325 352260.

Active are revising the Zoom CD interface and they are also implementing an easy-to-use search routine. Contact Active on the above number.

.net Directory

Anyone who has ever used a Rough Guide travel book will know just how useful they are for finding your way around foreign parts. Well, now Future Publishing can help you find your way around the Internet with The .net Directory.

The .net Directory has eight sections of reviews-based listings to help you trawl the Internet with ease. The .net Directory is bi-monthly and costs a measly £4.99. The first issue is on sale now. So buy it!



News on the Net

Keep up-to-date with all the latest computer news by logging on to the new FutureNet Computing News service. There's a link on the Amiga Shopper Home page at: http://www.futurenet.co.uk/computing/amigashopper.html

New graphics house



New graphics and animation company, Delphus Visuals, use a couple of accelerated A1200s and a Phase 5 Cyberstorm 060 to produce animated flybys and walkthroughs for the architectural community (see pic).

Contact Delphus Visuals on ☎ 01633 613300.

Single-speed drive offer

Hi-Q have managed to secure a limited number of single-speed CD-ROM drives. These drives are ideal for data retrieval or as a second CD drive. They are internal SCSI drives, which have a caddy for the CDs. Fitting is as easy as any SCSI device, and the drive runs like any other. The most amazing thing about these drives, though, is not the technology, which is easily beaten by dual-speed drives, but the price – £49.95. So if you want to fit a CD drive, but don't have the money, or if you want a second one, this could be the answer, especially as AS readers can save a further £10!



All you have to do is send a copy of this page to Hi-Q and one of these drives can be yours for just £40! Please ring for availability first, because they are selling out fast.

Note that Hi-Q have moved to the following address: Hi-Q, Gable End, 2 The Square, Hocklife, Bedfordshire LU7 9NB. The new telephone number is ☎ 01525 211327 and fax ☎ 01525 211328.

Exclusive!

Amigas at Live '95

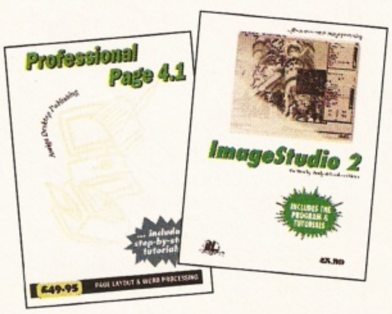
Amiga Technologies GmbH (UK) has given Amiga Shopper, together with Amiga Format and Amiga Power, two of their new Amigas, plus a mystery machine to display on Future Publishing's stand at the Live '95 Show. This will be the first time that anyone has actually seen the new A1200 and A4000T. You'll have to come to the show to find out what the mystery machine is, though – it's even a secret to us!

Live '95 is the annual consumer electronics show and it takes place on 19th to 24th September at Earls Court in London. Tickets cost £8 for adults and £4 for children under 16, and are available in advance from First Call 0171 396 4545 or from all 252 London Underground stations from 24th August, or on the door.

ImageStudio 2 & Pro Page 4.1

LH Publishing, run by Amiga Shopper's own Larry Hickmott, have licenced Gold Disks' Professional Page 4.1. Pro Page has its own text-based word processor and is excellent value for money, according to Larry. Pro Page 4.1 costs £49.95.

Also from LH Publishing comes a printed manual for ImageStudio 2, the exellent image processing package. ImageStudio 2 was on AS53's Coverdisk. Contact LH Publishing on ☎ 01908 370 230.



Overdrive CD-ROM

Silica have released yet another new CD-ROM drive. The Overdrive Quad Speed CD-ROM drive is capable of 600K/sec transfer speeds. It plugs directly into the PCMCIA slot on the side of the A1200. It offers the usual capabilities of CD drives, such as being PhotoCD and multi-session compatible. The drive costs £249. ☎ 0181 309 1111.



Sister act

AMIGA FORMAT

There are few things in life that give me more pleasure than putting together a damn fine magazine, and that's exactly what we have for you in our October issue of Amiga Format.

Not only are there the usual finely-crafted and fact-packed reviews of all the latest serious kit, but we have a special feature on the growing world of Amiga PD, a detailed critique of the ShapeShifter and a look at the two games which could really change the fate of the Amiga – Fears and Alien Breed 3D.

Add to that a healthy mix of readers letters, problem pages and our tremendous Coverdisks, and it's no wonder that nine out of 10 owners who expressed a preference are making sure they get Amiga Format, on sale Thursday, 31st August 1995.

Nick Veitch, Editor



A hundred words on the next issue huh? OK, there are reviews of Gametek's Brutal (a cute beat-'em-up, if you can believe it) and Arcane's Turbo Trax, an overhead racing game (now up to 40 words). We're thinking cars this month, and looking at all manner of driving, racing and, erm, stunting car games, mixing up a huge pot-pourri of facts and idle speculation. Seventy words gone, but still enough space to mention Sensible Train Spotter on the Coverdisk, quite literally the last Amiga Sensible game ever. And maybe there's just enough time to mention the on-sale date…

Out 20th August 1995.

Cam Winstanley, Editor

▶ 17

Squirrels do it with Zip!



AMIGA GOLD FORMAT

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BLUE CHIP AWARD

zip 100 drive SCSI

£179

Price inc 1 cartridge, extra 100Mb cartridges £15.95 or less!



A brand-new SCSI peripheral, the Zip™ may well revolutionise the storage industry.

This newest, most portable exchangeable hard disk drive weighs in at just 1lb, has fast transfer and access times (up to 1Mb/s transfer, 28ms seek), easily fits in your hand, your bag or your briefcase, stores up to 100Mb on floppy-sized disks, is perfect for all types of application and is priced at a level that will make you want to unzip your wallet immediately!

These drives and associated cartridges (25Mb & 100Mb) will be available in late August '95 directly from HiSoft with especially-written driver and support software included. Trust HiSoft to bring you the latest innovations at the best possible prices!

Amiga Zip Tools
exclusively from HiSoft

Zip drives from HiSoft come with everything you need to get going on a SCSI-aware Amiga: the Zip 100 drive, a 100Mb cartridge, all necessary leads and a complete set of software, programmed by HiSoft, including:

- *Easy access drivers*
- *Temporary unprotect*
- *Password protect*
- *Cartridge initialisation*
- *Write protection*
- *Cartridge eject*

Order your Zip drive now to be first in the long queue!

Super-Value CD-ROM Pack

only £225

value if purchased separately £285

HiSoft has done it again with a brilliant multimedia pack of Squirrel SCSI interface, Aiwa ACD-300 CD-ROM and the Almathera 10-on-10 pack of CDs!

Just look at what you get:

- *The amazing, trend-setting Squirrel SCSI interface which allows up to 7 peripherals (hard drive, CD-ROM, Zip, scanner etc.) to be daisy-chained together.*
- *CD32 and CDTV emulation software so that you can all those games and other titles such as Video Creator.*
- *The great-looking Aiwa ACD-300 CD-ROM drive; a fast, double-speed CD-ROM with full SCSI specification plus complete audio controls on the front so that you can play music CDs directly. Plus an informative LCD panel.*



Aiwa CD-ROM available separately @ £175

- *The Almathera 10-on-10 pack of CDs; this is 10 CDs including the Team Yankee game, 2000 clip-art images, the Illustrated Works of Shakespeare, a Comms, Internet & Networking CD, The World Vista Atlas, 1000s of fonts, a complete photo library and much, much more!*

All this, packaged together, at a truly superb price, with full 1 year warranty and technical support from HiSoft.

The Best-Value Hard Drives and CD-ROMs

If you want a hard drive (either SCSI or IDE) then HiSoft has the one to suit your needs; whether you are looking for a small, internal drive for your A1200/A600 or an external 1Gb beast-of-a-drive for any SCSI-aware Amiga, we can supply.



Based on only the highest quality mechanisms from top suppliers, with full manufacturer's warranty, our hard drives are fully tested for all Amiga computers and come with our own additional warranty and technical support.

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only £309 *inc Squirrel SCSI*

The fastest drive yet at a great price! Fast 600Kb/sec transfer plus 190ms access, using the renowned Toshiba 5301 drive. Also available w/o SCSI interface and/or case - just call.

IDE drives are perfect for auto-booting your A600/A1200 and come with connection lead, fixing bolts & complete fitting instructions. Fitting is very straightforward but may invalidate your Amiga's warranty - check with us.

SCSI Hard Drives

365Mb internal	£179	730Mb internal	£239
365Mb external	£249	730Mb external	£309
540Mb internal	£209	1Gb internal	£399
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2.5" IDE Drives

40Mb int.	£59.95	64Mb int.	£79.95

We offer internal or external SCSI hard drives, from 365Mb up to 2Gb. Internal devices are suitable for mounting in the A1500, A2000, A3000 and A4000 and come with necessary leads & screws whilst the external drives are supplied in our professional Squirrel 3.5" case (available separately) which includes integral power supply, all SCSI connections and connection leads of your choice (at extra cost).

Zip is a trademark of Iomega Inc

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All prices include UK VAT

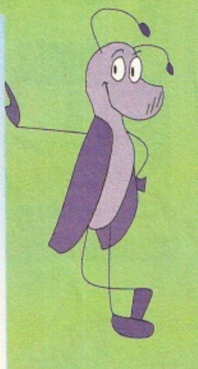
Order Hotline

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To order any of the products shown on this page (or any other HiSoft title, see the list opposite) - just call us, free of charge, on 0500 223660, armed with your credit or debit card; we will normally despatch within 4 working days (£4 P&P) or, for only £6, by guaranteed next day delivery (for goods in stock). Alternatively, you can send us a cheque or postal orders, made out to HiSoft. All prices include VAT. Export orders: call or fax to confirm pricing and postage costs.

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There's More!

Here is a list of HiSoft titles for the Amiga computers (prices shown are the individual RRPs): Squirrel SCSI interface - £69.95, Squirrel Storage Systems - please call, Aura 12/16 bit sampler - £99.95, Megalosound 8 bit sampler - £34.95, ProMidi interface - £24.95, HiSoft Devpac 3.14 - £79.95, HiSoft BASIC 2 - £79.95, HighSpeed Pascal - £99.95, Gamesmith - £99.95, Termite - £39.95, Twist 2 database - £99.95, Maxon Magic - £29.95, Upper Disk Tools - £14.95, VistaLite inc MakePath/TerraForm - £39.95 and much more. Coming very soon: DiskMagic (disk tools) and Cinema4D.

Accelerate now!

Gordon Harwood have released details of the next generation of accelerator boards in their Blizzard range. Starting with 28MHz 020 boards, which should improve A1200 speed by c. 300 per cent, the prices are as low as £199.95 including 4Mb RAM. There is also the new mark IV 1230, based around a 50MHz 030 for £199.95. The board has an optional SCSI-2 kit.

For high-end users, a brand new board is being launched. The Blizzard 1260 will bring a full 50MHz 060 processor with MMU, which should make your A1200 four to five times faster than an A4000/040! The price? A surprising £599.95.

A1500 users will be pleased to know that they too can get this sort of power from the Blizzard 2060, which is a similar spec board to the 1260. The price for this board starts at £699.95. Call Harwoods on ☎ 01773 836781.

SCSI connect

SCSI devices are growing in popularity with Amiga users, mainly because of the new-found ability to attach such drives to the A1200, thanks to SCSI adapters like the Squirrel. Some people have been left out in the cold, though, because they already have hard drives or other peripherals attached to the PCMCIA slot that these adapters use. This new-16 bit adapter from Siren Software can change that. It fits internally to the IDE connector, with a through port for internal hard drives. A cable then threads through to the additional port on the far left of the back of the A1200 next to the internal disk drive. The cost is £69.99 and you can expect a full review next issue. Siren can be contacted on ☎ 0161 796 5279.

ProGrab



We reviewed ProGrab 24RT Plus in issue 53 and awarded it 95 per cent and an Amiga Shopper Star buy. However, Steve McGill had problems with downloading Teletext pages at the time. It turns out that the problem was actually a weak broadcast signal. There is a way of compensating for this weak signal using the ProGrab software. This will be explained in the new manual available from Gordon Harwoods. Anyone experiencing problems contact Harwoods on ☎ 01773 836781.

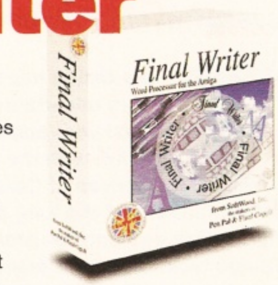
ICPUG membership

Independent Commodore Products User Group (ICPUG) have reduced their subscription rates. From 1st September to 31st December 1995 only, you can subscribe for just £9.50 (incl. £1 share), this price applies to UK and BFPO members. Europe and Eire residents and overseas surface mail pay only £12, while the overseas airmail rate is £15.50.

Existing ICPUG members aren't forgotten either. If they introduce a new member to the group they will receive a credit of £1 against their subscription for 1996 – and there's no limit on the number of new members they bring to the group.

Application forms are available from Tim Arnot, 17 Colne Drive, Oakfields, Didcot, Oxon OX11 7RZ. ☎ 01235 815725 after 8.30pm.

Final Writer



Softwood's excellent word processor has recently undergone a major upgrade. Final Writer 4 now incorporates lots of new features to make it even more user-friendly. Improvements include a completely re-designed user interface and a new built-in Grammar Checker. Final Writer 4 should be available by the time you read this. Check out the next issue of Amiga Shopper for a review.

For more details contact Softwood on ☎ 01773 836781.

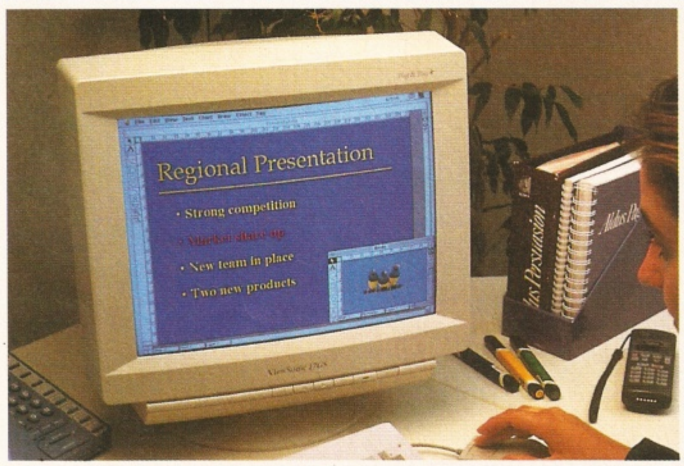
New from Optonica

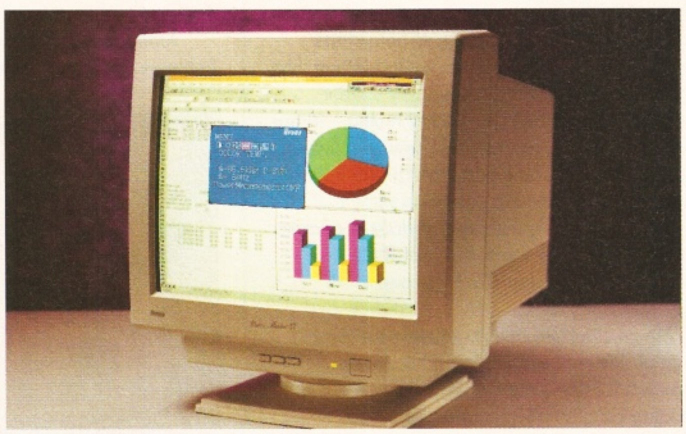
M.M. Experience Pro from Optonica gives you the power to combine your own graphics, animations, music modules, text, sound samples and CDXL video into professional-looking standalone presentations.



Also available is InfoNEXUS 2, the upgrade to the file management system. New functions include Drag and Drop File copying. InfoNEXUS 2 now also includes the fully-featured flat file database, DataNEXUS. A demo of these programs are on Amiga Format's October Coverdisks. Contact Optonica on ☎ 01455 558282.

New monitors





Two new ranges of monitors have been launched. The new Vision Master from Iiyama (above) comes in both 17 and 21 inch and starts at £575. The ViewSonic 17GS (left), is another 17 inch monitor. Both claim to be environmentally friendly. See our monitors Supertest next month if you want to know more about the monitors currently on offer. Iiyama ☎ 01438 745482. ViewSonic ☎ 01734 750531.

Amigas make it possible

The Amiga is over 10 years old now, almost an antique in computer terminology. Yet still it attracts overwhelming respect and enthusiasm from users the world over. Amiga Shopper explains why…

The Amiga has suffered from a very uncertain future over the past year and a half or so. What with the untimely demise of Commodore International and the long drawn-out liquidation and auction process for the Amiga technology, it's amazing the Amiga has managed to survive for this long.

But survive it has. And with the purchase of the Amiga and its technology by Escom, the formation of their new daughter company, Amiga Technologies GmbH and the promise of Amigas back in the High Street around September, things are certainly looking up! (See page 14 where Amiga Shopper asks Amiga Technologies for all the latest news.)

Survival of the fittest

The main reason that the Amiga is still living and breathing is because it has always been such an excellent, user-friendly multimedia computer – well before the term 'multimedia' became popular Amigas were multitasking like mad. Another very important reason why the Amiga has been kept alive and well is because it has countless loyal and extremely enthusiastic users.

But why have people stuck solidly with their Amigas? Well, there are plenty of reasons. Not only are Amigas excellent for use in the home environment: for keeping track of household accounts, producing fanzines, writing letters and playing games, but Amigas are also used in many other fields, from producing music – either on an amateur or professional basis – or linking you up to the outside world through the Internet, through to programming superb commercial (or public domain) games and serious programs – even modelling many of the incredible special effects for films like Robocop or TV series like Babylon 5.

Amiga Shopper has reviewed a massive range of different software and hardware produced for the Amiga platform over the years, including programming languages, video equipment and software, 3D packages and add-ons, modems, CD-ROM drives, word processors, monitors, business software, paint packages, accelerator cards, databases… the list is endless. We have also interviewed and featured many companies who use Amigas in their everyday environment, like Foundation Imaging, Premier Vision, Alien Race and The Room Upstairs, amongst countless others.

A fitting tribute

We want to pay tribute to the Amiga and especially to all our readers who have stayed loyal to the machine and their favourite serious Amiga magazine. We also want to welcome all those new readers who have been reading Amiga Shopper since the re-launch in March.

We decided to ask our panel of Amiga experts who regularly appear in Amiga Shopper, either reviewing new products or helping you solve all your Amiga problems, to answer four pertinent questions about the Amiga.

We asked them why they choose to use Amigas; what their Amiga set-up is – how they have customised their Amigas for the work they do and what Amiga products they use on a regular basis; what features they think the Amiga needs and why Amiga Technologies should include them and we also asked them for the best 10 Amiga products of all time. Be prepared to be amazed at the results:

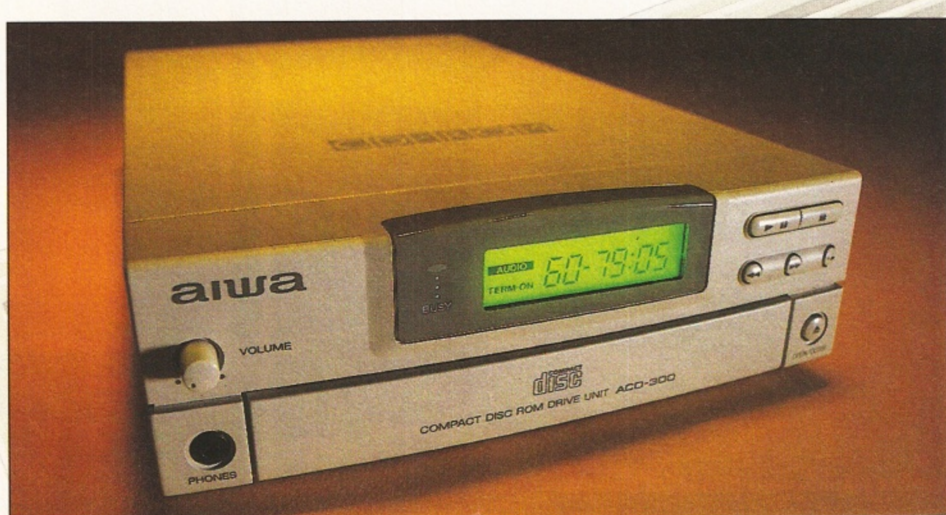
David Taylor

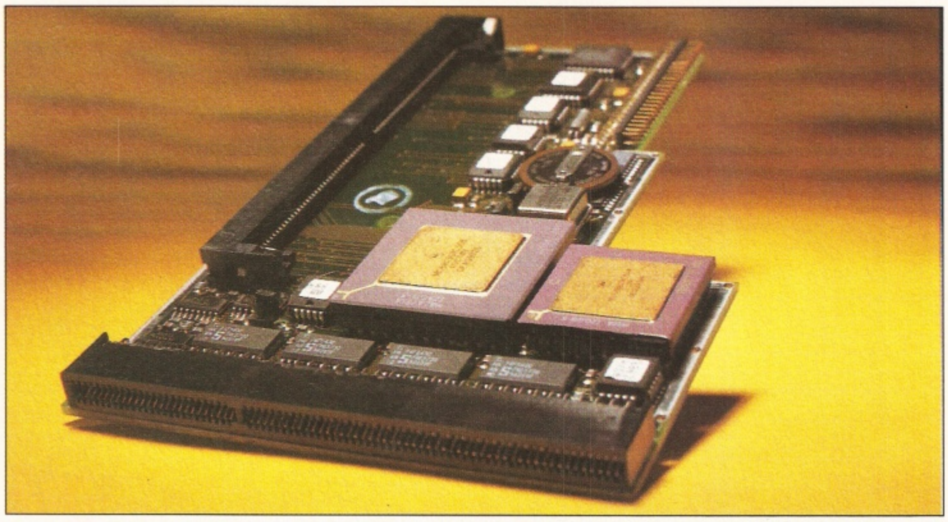
David is Amiga Shopper's Coverdisk and Technical Editor. Here's how he uses his Amiga to help create the pages you read…

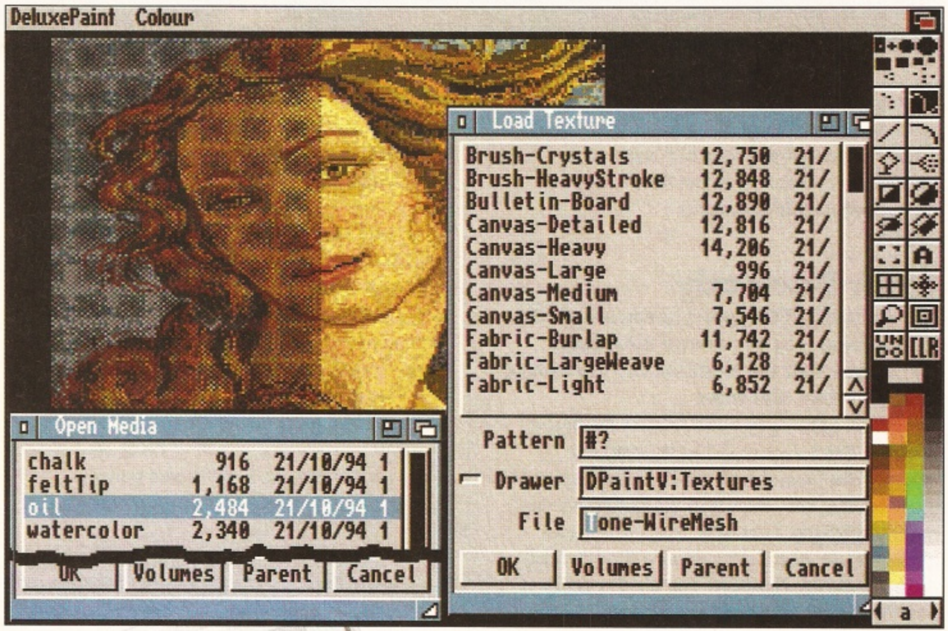
After years away from computers, largely because I hadn't seen anything new to interest

"Why have people stuck **solidly** with their Amigas? Well, there are plenty of reasons."

David would like Aiwa's ACD-300 CD-ROM drive as part of his ideal Amiga set-up. The drive received the accolade of a Star buy in AS53.







Top: The Blizzard 1230 accelerator board, bringing awesome power to Amigas near you.

Above: Deluxe Paint, the Amiga's most famous and most loved art package. Five of our experts can't be wrong (see table on page 22).

me, a friend at college introduced me to the Amiga. I was dumbstruck and got the opportunity to have one when my father needed a computer to write a book. After I'd finished university, I managed to get a job on a certain rival magazine and continued to learn more and more about the Amiga and its abilities. Although I've toyed with moving to PCs, I can't bear the thought of losing the Amiga's capabilities to work with the tiresome Windows set-up.

Putting together a magazine requires a surprisingly low-end system. I do occasionally have to make use of an A4000, but find that an A1200 is perfectly adequate for most things. It does have more memory than standard, which is necessary, and a faster 020, all combined on the Apollo board that's installed at the moment in my A1200 (see page 48 for the review of the board). Although the hard drive on my Amiga is quite small, I've currently got several external devices for additional storage.

Thanks to review products being added and removed, the system I use constantly changes, but the ideal set up for the A1200 would be an accelerator card (I don't need the extra speed, but it's nice!) with more memory, the Aiwa CD-ROM drive (you can win one this month – see page 96), the Iomega Zip drive (see page 46) and an external HD floppy. An A4000 is great, but you can get better service from a souped-up A1200. It depends on your needs.

Aside from converting text (using MultiCV) and pictures (for which I use ADPro), my Amiga is used constantly for compiling the disks. Most of the software is taken from Aminet and so I use NComm and Cix to get the archives. I use a variety of text processors to write the scripts, but the program at the centre of my Amiga universe is Directory Opus 4. The archiver used for the disks, LZX, obviously gets a lot of work, but I have the Workbench configured for my ease with several PD programs in my WBStartup drawer. I'd highly recommend that people think carefully about what they put in there, because it can make a world of difference. A virus checker is always working, as is a launching utility (currently Wangipad, which is on this month's Subscribers disk). I also have a small utility to utilise the third mouse button and an Assign manager to make life easier.

The future developments for the Amiga are difficult to define. One way to go would be to incorporate some of the third party add-ons, because what's really needed quickly is an upgrading of the minimum specs. There should also be an 030 processor, more RAM, an HD floppy and a large hard drive as standard. New chipsets are not going to arrive overnight, but a more powerful Amiga could be compiled quite quickly. Then, next year, maybe we'll see some more interesting advances.

The best way to improve your Amiga is to make the most of your system. Commercial software is great for serious applications like graphics, but look at the Public Domain (and without being too self-indulgent, the AS Coverdisks) and use the software there, because it can make your system so much more friendly and productive.

Paul Overaa

Our Operating Systems expert, Paul, is also into music-creation on the Amiga...

From the moment I saw the famous 'bouncing ball' demo running on an A1000 I knew that the Amiga was special and worth taking an interest in. The first machine I got was an A1000 and this, coupled with a set of Addison Wesley manuals, certainly kept me busy. The more I learned about the Amiga the more I realised that this machine provided a really affordable platform for understanding multitasking Operating Systems, WIMP interfaces, event handling and so on. For development software the SAS C (formerly ▶ 20

"From the moment I saw the famous 'bouncing ball' demo I knew the Amiga was **special**."



Hi-Soft's SCSI Squirrel – universally adored.

Lattice) compiler and Hi-Soft's Devpac get my vote, but Charlie Gibb's freely distributable A68K Assembler is also worthy of inclusion in any Amiga software Hall Of Fame.

At the moment I use an A4000/040 with 6Mb of RAM and a 200Mb hard drive for most of my work. This runs Workbench 3, of course, but I still keep an old Workbench 1.3-based twin-floppy A2000 machine lurking around, which is occasionally used for running/testing software which is either meant to be 1.3-compatible or which only runs under 1.3!

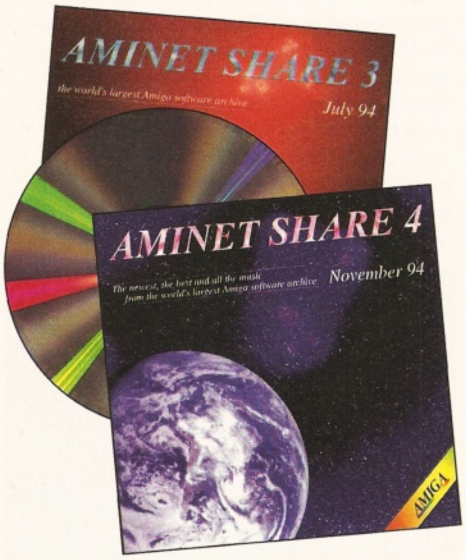
The Amiga's Operating System has clearly outgrown the 'floppy-based machine' philosophy. To run Workbench 3 a hard drive is essential, so they shouldn't sell machines without one. Anyone thinking of buying a new Amiga should have a hard drive fitted from day one – I advise getting the largest capacity drive you can afford.

In the early days my A2000 was used for a lot of live (on-stage) MIDI work and so I fitted a built-in MIDI interface to the back panel. The biggest drawback I came across in the old days was the lack of MIDI software. In particular the absence of a simple MIDI file player meant that I was having to use a full sequencer on stage. For on-stage work you really only need simple MIDI playback facilities and in the end I wrote my own MIDI utilities just to get the software I needed.

Nowadays there's quite a bit more commercial music software around. It would be nice to see a change of emphasis by Amiga Technologies from 8-bit to 16-bit sampled sounds, creating a new level of software.

From the current batch, the well-supported and robust Dr T's KCS sequencer has stood the test of time and Blue Ribbon Soundworks's Bars & Pipes and SuperJAM also deserve a mention – not just because they are good products but for their innovative design. As far as sound samplers are concerned it was Ramscan's Audio Engineer package that set the standards for everyone else. With tracker music programs, of course Teijo Kinnunen's OctaMED Pro is a timeless classic.

Electronic Art's DPaint must surely go down in history, as well. I think that Almathera's



The Aminet CD-ROM collection has over the years provided top-quality software.



With 3D rendering packages like Imagine (above), gorgeous images can be created.

Photogenics, though new, is also notable – not just because of the genuine excitement it has created amongst its users but because it provides an indication of just how powerful Amiga software is becoming.

John Kennedy

John is Amiga Shopper's hardware expert. He explains why the Amiga outclasses computers that are traditionally thought of as higher-end platforms...

When asked why I use Amigas my answer is simple – the Amiga is the best computer around. The Operating System is the fastest and most flexible, and, thanks to the configurability and multitasking, I can get things done a lot quicker. I use adequate software (Cygnus Ed, AdPro, Imagine, AmiTCP), but it's the ability to use them all at the same time and flick between their screens and windows that makes the Amiga unique. Raw processor power is slightly less than I would like, but I can still get things done faster than with any other platform. Trying to use a PC or Mac is so crippling for my work.

My prime Amiga system is currently an A4000 fitted with a Warp Engine 28MHz/040 and a Tatung 15-inch monitor. Inside there are two 300Mb IDE hard drives in removable datapacks, and a 1Gb SCSI2 hard drive. There is about 20Mb of RAM, which seems to be about right. The Warp Engine's SCSI interface also runs an excellent quad-speed Toshiba CD-ROM drive (the only item on loan – but don't tell them, because it's great and I don't want to return it). A MIDI interface is permanently connected to my Amiga.

I have several Zorro cards fitted, including a Picasso II 24-bit graphics card. This addition has made the biggest difference to my set-up, because it speeds up almost everything. Getting it to work just right takes a lot of experimentation, and I found the third-party CyberGFX system offers better screen modes and more features than the standard Picasso drivers. All of a sudden, MUI programs are fast enough to use. This extra speed increases the performance of one of my top 10 Amiga products of all time – the outstanding paint package, Art Department Professional.

With the CyberStorm 060 accelerator board attached this would provide some real raw power.

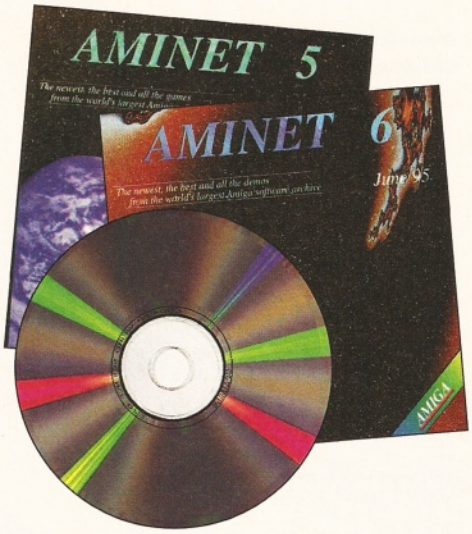
I also have a GG2 Bridgeboard card which allows me to use a PC multi-I/O card and a PC NE2000 Ethernet card. The Ethernet card is essential, because using AmiTCP I can now communicate with the other systems which share the office.

This frightening amount of hardware is encased in a gigantic Tower system, which is painted a dangerous shade of black, complete with a weird logo to frighten and confuse passing Mac and PC owners who haven't a clue what it is.

When I have to use an Apple Mac, I use the shareware ShapeShifter emulator. Because of the Picasso II, my virtual Mac runs faster than an entry-level 040 Performa.

What I would like to see added to any new Amiga would be better sound and MIDI support, new 'chunky' graphics modes with the ability to drive standard PC monitors, networking options

"This frightening amount of **hardware** is encased in a gigantic Tower system."



The Aminet CD-ROM collection spreads over six volumes, with a seventh imminent.

and a native version of NetScape. A move to RISC and PCI bus would be nice too.

Larry Hickmott

Although Larry owns both a PC and a Macintosh, he still used his Amiga DTP package to create documents, magazines, and books...

After using an Amiga for more than six years, both as a hobbyist and now professionally, I'm hoping that the Escom deal will show the world that this computer is much more than just a toy. Quite an ironic wish in light of the fact that I originally chose an Amiga for the kids, because of its game playing capability.

At the time I bought the Amiga, however, I knew nothing about why it was so good, only that of all the computers I had to choose from in the late eighties, the Amiga was the most user-friendly. Six years on and the Amiga, to my mind, is still the most user-friendly computer, despite the advances made by Apple's Mac and the PC.

I started out with an Amiga 500 running Workbench 1.2, and have progressed to having two Amiga 1200s along with a PC and Macintosh. What many people find surprising about this, is that the Macintosh and the PC are relegated to being support machines for the Amiga and not the other way around. This is even more surprising if you take into account the Amigas I have are fairly basic and the work they have to do is fairly demanding.

Which is why I rate the 1200 as one of the most significant computers ever released. It may look like a toy, but when people see what it can do in relation to some supposedly real computers, they can only be amazed. Not that it's all down to the 1200. A computer needs tools and over the years there have been some pretty fine Amiga packages released, many of which are now on the PC and/or the Macintosh.

Of the tools I use, there are two that have provided me with a living for a good number of years. The first is Professional Page 4.1, a DTP package that is so good I decided to put my money where my mouth is and licence it, so others could discover how great it is. The other program is Protext, a word cruncher like no other and still in use today on my Amiga to tap out these words.

There have been other programs of course. Both Final Writer and Wordworth have made a big impact on the Amiga market, as has Deluxe Paint, a paint program against which others are judged. One other package sticks out in my mind, not for what it has done so far, but for what it will do in the future, and that's the SCSI adaptor, Squirrel from Hi-Soft.

Which leads me on to what I'd like to see in the next generation Amigas. Workbench is okay, but a file manager like DirWork or Directory Opus should be included in the bundle. I would also like to have support for more screen colours as standard, so applications can display colour pictures in all their glory. The printing side of things also needs to be upgraded, because most people are sick and tired of having to wait 20 minutes or longer for a page to print.

Whatever new stuff appears in the Amiga though, you can bet this is one household that won't be deserting it to work full time on an inferior piece of hardware like the PC or Macintosh. The Amiga is great, let's not ever forget that.

Gary Whiteley

Gary is our expert on video and graphics. He uses a selection of hybrid Amigas to produce all his work...

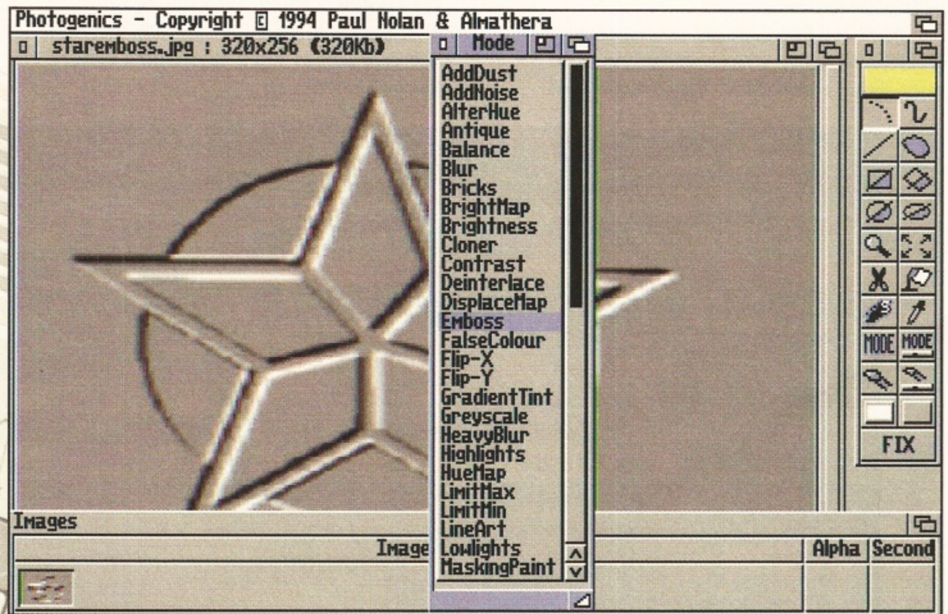
I chose Amigas because they were the only computers within my price range capable of providing the video and graphics power I required. Over the years I've built up a system which almost fulfils my needs, though I must admit that more processing speed would be nice. I'm sticking with Amigas, despite Commodore's laughable demise, because I'm not yet happy with PCs for what I do. Let's hope Escom can do better.

My everyday hardware is my old and trusty A2000 (bought second-hand about five years ago!), fitted with a GVP 4Mb 40MHz 68030/68882 and SCSI, DKB MegAchip (2Mb Agnus), several SCSI hard drives, Power HD internal floppy, standard DD floppy, a Mitsumi CD-ROM and controller, an OpalVision card, plus 6Mb of RAM on an ancient Microbotics 8-UP! card, a V-Lab framegrabber, Mitsubishi multisync monitor and a Hewlett Packard DJ-500 printer. I also have access to several friends' Amigas as well as an original A1000 (currently languishing in my loft). I've stuck with the A2000 as it mostly does what I want, and the cost of changing to an equivalent A4000 system was too much to make me consider a switch, regardless of its shortage of expansion slots and other drawbacks.



When I need access to serious video equipment I simply go to a friend's house and use his – since he's an electronic genius with specially modified Amigas, video devices and a PAR card, I know that the output will be as good, if not better, than many commercial set-ups. Since I also do freelance film and TV work for him my Amigas need only be powerful

"The Macintosh and PC are relegated to being support machines for the Amiga."



Photogenics (right) has taken art software on the Amiga to previously unimaginable levels.

enough to do the preparatory work, such as graphics production, rendering and animation. The whole thing is put together on his Amigas so we can use their power in production.

On the software side I've too many applications to mention, though for what I do other than writing and reviewing I probably use DPaint and OpalVision the most, along with Art Department and Directory Opus. For quick access to programs I have ToolManager installed, while ReOrg and DiskSalv2 help me keep my drives organised.

I think every Amiga package should have the option of a bundled monitor at a discount price. Top-end Amigas should have fast 040 processors, though preferably 060s, if not RISC or better. Sensible memory and hard disk options should be available, with SCSI and IDE as standard. All machines should have at least composite (or even S-VHS) video output. And *all* machines should be powerful enough and priced to attract volume sales, particularly the high-end ones which have to compete with increasingly good value Pentium PCs.

My advice to readers wanting to upgrade: add in this order – a second disk drive, more memory, an RGB monitor, hard drive(s), more memory (again), a faster processor and always make back-ups! The rest is up to you. Have fun!

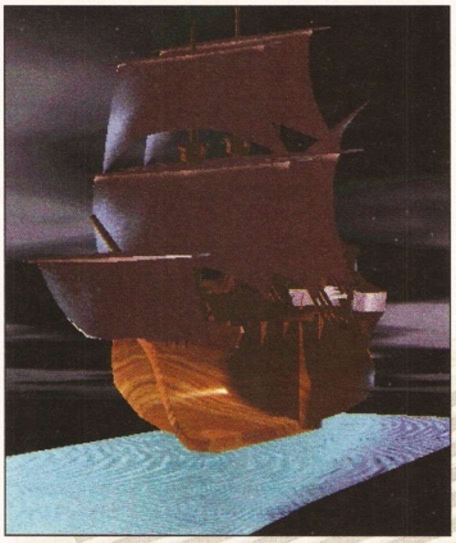
Dave Haynie

Ex-Commodore engineer and coding expert (see AS47 for his programming Supertest), Dave believes the Amiga is still, and has always been, the best machine available...

I use Amigas because I choose to, and I choose to because they simply do things better. I started on the Amiga 1000 after being the number two hardware engineer on the Commodore 128. This machine was so far ahead of the status quo it blew us away.

Up to that time I had used PET, C64/C128, CP/M, MS-DOS, UNIX, TOPS-20, and several other OSs on various computers. There was something inherently better about the Amiga OS, even back then, although it took me years to fully appreciate it.

You'll find that there are two reasons to use a computer. Some people are looking for a specialised workstation – they need a word processor, a CAD system, perhaps a music station. For such people, any system will do – the application drives the need. In the second use, that of a personal computer, everything is done on the one system. While you can't do every single application on the Amiga to the same standard as on some other systems, it's a triumph of the Amiga's design, and the design of the applications it does support, that it works so well doing lots of different things. And without the need for its users to get a second mortgage to afford this power.



More incredible rendering power, this time courtesy of LightWave.

I myself use three Amigas. My primary machine is an A3000, which has 18Mb of DRAM, one HD floppy, a 1.1Gb hard disk, a 44Mb SyQuest, a double-speed CD-ROM drive, and Oliver Bausch's oMniBus RTG system, which I generally run at 1,180x900x3. I keep an A1200, with the basic 2Mb of DRAM and hard disk, for travelling. Finally, I have a prototype A3000+, with 10Mb DRAM, 100Mb hard disk, and genlock, which I use for video editing.

I think the single most important job Escom has before them is to establish buyer confidence in the Amiga. That starts with a guaranteed future, which is, strangely enough, at least in part an engineering question. To that end the Amiga needs the following:

- Retargetable graphics. We have that now from third parties, but it should be a system-defined standard.

"I use Amigas because I choose to, and I choose to because they simply do things better."

- Generalised high-level device standards. Exec defines low-level devices very well. Only DOS defines high-level device interfaces, and then, only for disks. We need these for sound, MIDI, serial and other ports, etc. It should be possible for an application to ask 'Give me a listview of all MIDI input devices', for example. And once a device is selected, it's accessed via high-level protocols; don't make every program re-implement this stuff.
- Faster CPUs. I mean RISC, but there must be an AmigaOS on a RISC system – we can't yield the advantages of the Amiga architecture just by crunching numbers faster – I can buy that kind of thing today.
- PCI bus. PCI is an industry hardware standard that transcends any platform, and enables a truly modular computer, where plug-ins don't cost more than built-ins.
- Price/performance. The Amiga must rival other systems. Five years ago, no problem. But age catches up, even with the best.

And now my advice for getting more out of your Amiga:

- Learn ARexx (see ARexx feature in AS51).
- Learn ARexx. Yes, learn it, it's one big reason the Amiga is such a better personal system than all the others.
- Run a 32-bit Kickstart if you can.
- Don't fix it if it ain't broken.
- HAVE FUN! Amigas still make this possible. ■

The experts' top 10 Amiga-related products (in no particular order)

Gary	Larry	Dave Taylor	John	Paul	Dave Haynie
Deluxe Paint	Deluxe Paint	Deluxe Paint	Cyberstorm O60	Deluxe Paint	Deluxe Paint
Art Dept Pro	Amiga 1200	Art Dept Pro	Art Dept Pro	KCS sequencer	Amiga 1000
OpalVision/Paint	Professional Page	Photogenics	Music-X	Photogenics	Mandala
Imagine	Protext	Protext	Spot	Bars & Pipes	ARexx
LightWave	Final Writer	Aminet CD coll'n	Aminet site	SuperJAM	Video Toaster
Nicola OLR	Wordworth	Aiwa CD-ROM drive	SAS C	SAS C	SAS C
ProCONTROL	Squirrel SCSI	Squirrel SCSI	Cygnus Ed	Audio Engineer	AD5/16 Studio
Directory Opus	Directory Opus	Directory Opus	Directory Opus	OctaMED Pro	Fred Fish CD-ROM
DPS PAR	Magic Workbench	NComm	V-Lab Motion	Devpac	MindWalker
Scala MM300	DataStorm	Blizzard 1230	Real 3D	A68K Assembler	Scala MM300

Colours indicate the popularity of each product: ■ Five experts endorse this product. ■ Four experts. ■ Three experts. □ Two experts.

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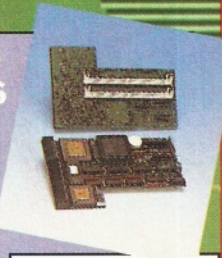
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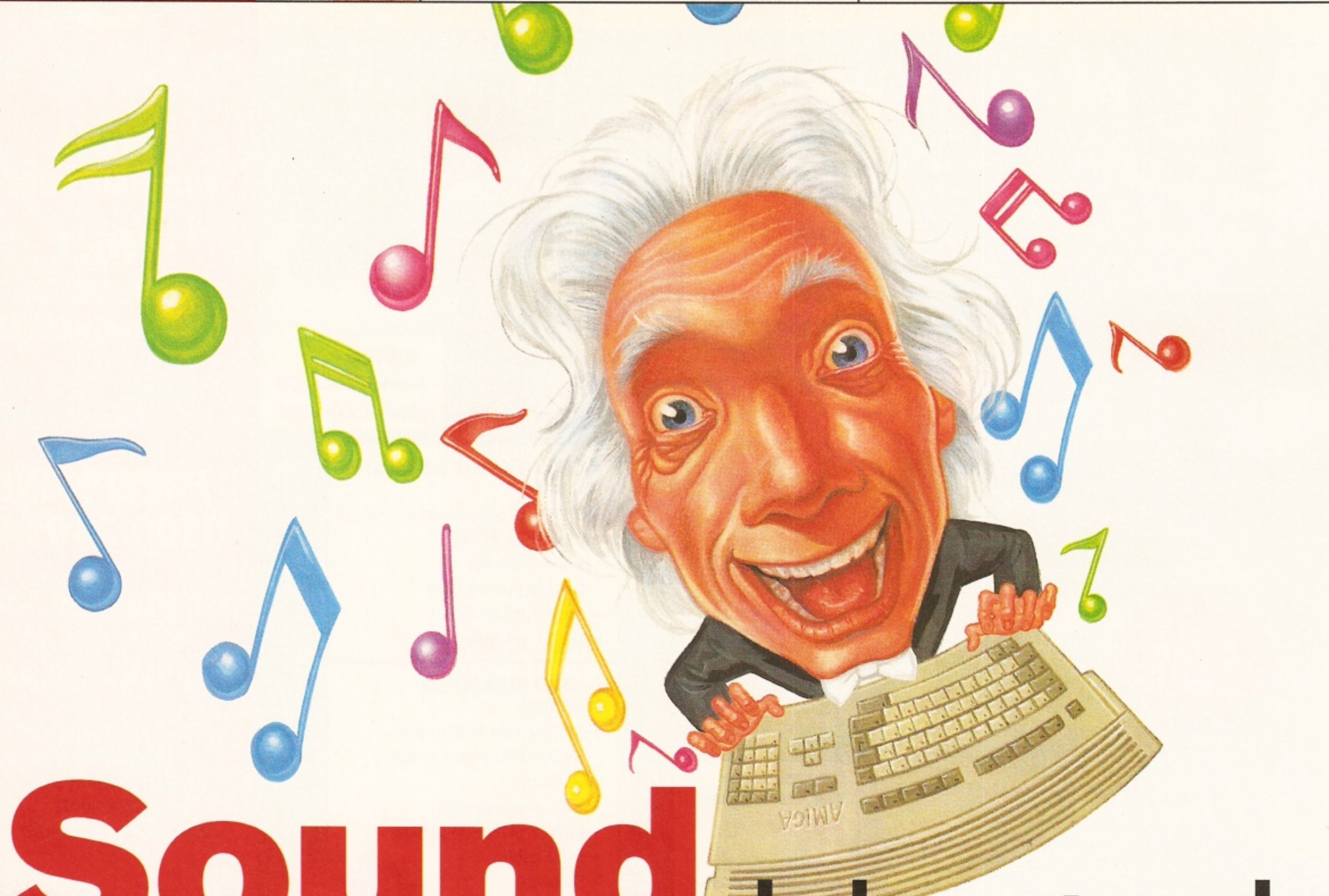
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Sound blaster!

This month we have not just a Supertest, but a comprehensive guide to making music on your Amiga. What do you need? How do you do it? **John Kennedy** *explains all...*

The Amiga has had a dramatic impact on the rest of the computing world when it comes to music. It may have suffered slightly in the professional market due to the lack of a standard MIDI port, but the internal sound effects have created a whole new genre of computer music – the MOD file.

Ever since the first 'sound tracker' programs appeared, the Amiga music scene has exploded, and there are now thousands and thousands of sound MODule files floating out there in PD libraries and on the Internet. Originally, MOD files provided the musical backing tracks for Demo programs, but soon established themselves in their own right.

With the Amiga's ability to play up to four sound samples at different pitches simultaneously, anyone with a little talent could compose very pleasing ditties. With more than a little talent, some spare time and their own sampler, musicians could make staggeringly good tunes – several have already made it into the music charts.

One of the first of these 'tracker' programs was OctaMED, and development has continued almost non-stop to create the ultimate sample-based music composition tool for the Amiga. In fact, we have the very latest version on review in the next few pages.

Jargon busting

MIDI: Musical Instrument Digital Interface – the standard which allows electronic musical instruments to communicate with one another. Add a computer into the chain and you have a very flexible home studio.
MIDI channel: MIDI allows multiple instruments by providing up to 16 channels. Each instrument (or each voice of each instrument) can be programmed to react only to a specific channel.
MIDI interface: A piece of hardware required to allow the Amiga to control MIDI instruments. It provides the physical connections as well as the electronic level matching and opto-isolation.
Velocity sensitive: If a keyboard is velocity sensitive, the harder you press a key the louder the sound that is producted, just like a real piano.
Monophonic: Capable of playing only one sound at a time.
Multi-timbral: An instrument not only able to play several notes at once, but able to play several voices at once. For example, piano chords and drums.
Patch: A particular setting on a synthesiser. For example, a piano sound could be one patch, a bass guitar another. Patches can be selected from the controls on the synthesiser/sound module or via MIDI.
Polyphonic: The ability to play more than one sound at a time – chords, for example.
Sample: (verb) To digitise a sound into computer-readable form. (noun) A file which contains a sound in digital form.
Sampler: The hardware required to convert a sound into digital form (sometimes known as a digitiser).

Sound improvements

All Amiga computers have this music capability as standard. Built into the hardware are four voices, each capable of replaying sound samples with an accuracy of eight bits. For a games machine this is more than adequate, and if you listen to any of the MODs you'll know that some very phenonemal results are possible.

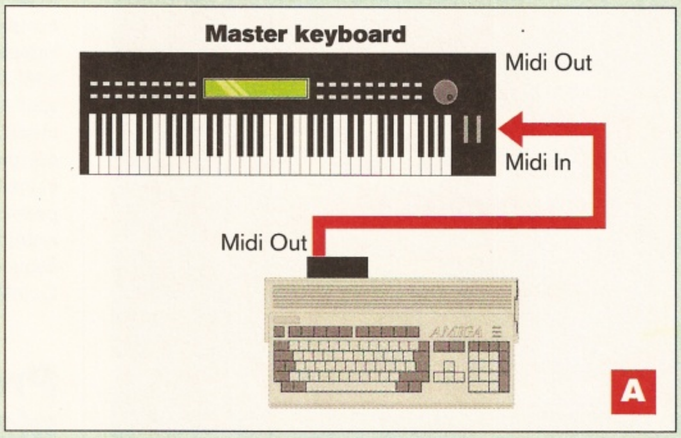
But sometimes the Amiga sound simply isn't good enough. It can be inflexible, or

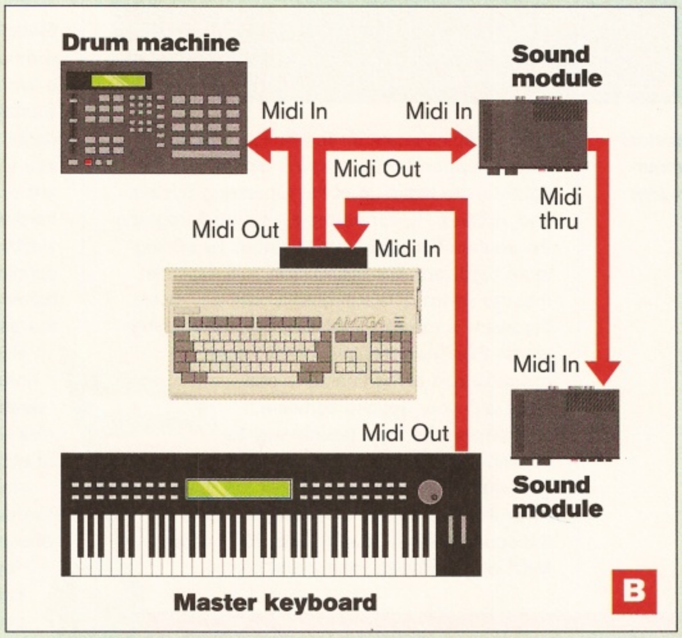
How MIDI works

The Musical Instrument Digital Interface (MIDI) is a fast two-way serial link used for connecting electronic musical instruments and computers. Each instrument has up to three types of socket: an IN (for receiving MIDI information), an OUT (for transmitting it) and a THRU (for echoing out an incoming signal). Which lead is used depends on the instrument. For example, a Master MIDI keyboard (a music keyboard which doesn't make any sound, just MIDI information) would be connected from its OUT to a computer's IN socket. Similarly, a sound module would be connected from the computer MIDI interface's OUT to its own IN socket. Some instruments, such as samplers, require both an OUT and an IN port.

The instruments are therefore arranged in such a way so that all the INs and OUTs are connected properly. If there is a shortage of OUT ports, it is usually perfectly acceptable to 'borrow' the signal from another instrument's THRU socket.

Rather than transmitting sound information along its cables, MIDI sends digital codes which describe various aspects of the note to be played. For example, when you press a key on a MIDI Master keyboard a packet of MIDI information pops through the OUT port. The packet contains the number of the note which has been played, and also the volume of the note (determined by how hard the music key has been pressed). If this packet arrives at a computer running a MIDI sequencing program it may be recorded, and then altered if you want – perhaps the note was wrong, or the volume incorrect. The sequencer can then replay the note – so another packet leaves the OUT socket and arrives at the sound module's IN socket. The sound module can then play the relevant note.





In order to allow more than one instrument to be used, MIDI uses 16 different channels. This doesn't mean 16 cables are required, rather that part of the MIDI data packet contains special channel information. Each instrument can be set to respond only to a certain channel. For example, a drum machine might respond to channel 10. If a MIDI packet is sent which isn't for channel 10, the drum machine will ignore it.

Some instruments are 'multi-timbral' in that they can generate more than one sound at a time. For example, a MIDI sound module may be able to play eight or more different sounds at once: drums, strings, bass guitar and so on. It is common for these instruments to work with several different MIDI channels, so the drums may be on channel 10, the bass on 5 and the strings on 2.

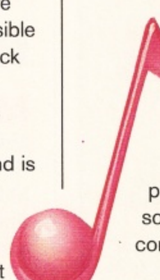
***A** A very simple MIDI set-up, and the music keyboard is connected via both MIDI IN and MIDI OUT. The MIDI OUT carries keypress information from the keyboard to the Amiga (note, velocity and so on), and the MIDI IN carries note information from the Amiga. The Amiga can therefore store incoming MIDI information, edit it, and replay it.*

***B** A slightly more complicated set-up, because more instruments are involved. The Amiga MIDI interface in this example has two MIDI OUTs. One goes to a drum machine, the other to the first sound module. The sound module passes on the incoming MIDI information using its MIDI THRU sockets to a second sound module. This instrument acts as though it was getting a direct feed from the Amiga. The MIDI IN arriving at the Amiga comes from the Master keyboard. Notice how no IN to the master keyboard is required, because it never makes a noise itself.*

the quality offered by the 8-bit resolution isn't there. Listen to any of the really good sound MODs and you'll swear you are hearing more than four sounds at once – although there are only four hardware sound channels, it is possible to cheat. For example, if you need a drum track and a backing track you can combine both sounds into one sample, thus saving a voice.

Unfortunately, it isn't possible to carry on adding sounds in this way, because the sound is reduced in quality and eventually becomes unbearably distorted. Doubling tracks also makes composition difficult, and hampers creativity. That's not to say it can't be done, it just takes a lot of time and there are still finite limits. Several tracker programs offer eight channel sound by careful manipulation of samples, but the hardware limits are still there.

In these situations there are two ways to go: improve the Amiga's sound capabilities or look to generating the sounds externally. One of the first improved sound systems for the Amiga was Clarity16 from MicroDeal/Hi-Soft. It did offer true 16-bit sound sampling and playback, but unfortunately it could only manage one sound at a time before the quality suffered tremendously. In its favour, it was the only affordable way of using MIDI sample dumps – but more on this later. Clarity has been superseded by Hi-Soft's Aura, which connects to the PCMCIA port of the A1200/A600 and offers 12-bit sound quality – a very workable compromise between eight and 16.

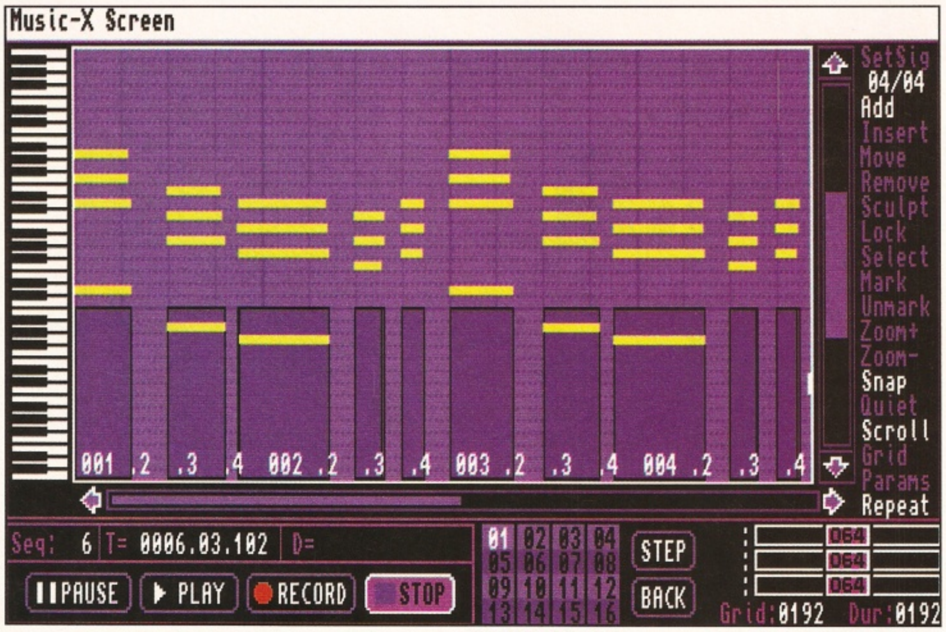


It was the 'big box' Amigas with Zorro slots which gained the best sound improvements such as add-on cards like the SunRize, the Toccata and others. Sadly, given the still dormant expansion market tracking down these cards is almost impossible, but hopefully that will change.

It is important to understand that none of these improved sound systems will act as a

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"Anyone with a little **talent** could compose very pleasing ditties."



At some point you need to enter some musical notes into Music-X – that's what these colour-coded blobs are for. The rectangles represent their volume.

drop-in replacement for the Amiga custom chips. Support for the chips is embedded too tightly in the make-up of the Operating System and, unlike a PC for example, you can't upgrade the sound effects present in games by adding more hardware. For this reason, it is essential that the software which comes with any music hardware is extremely flexible. There is nothing worse than have multiple 16-bit sound channels and being unable to use them with your existing software.

Perhaps the most flexible way to expand the Amiga's music generating capabilities is to shift the onus away from the Amiga to actually creating the sounds: this is exactly what MIDI is for. MIDI is the 'Musical Instrument Digital Interface', a standard which allows electronic instruments and keyboards to be interconnected. MIDI is completely platform independent, which means with a MIDI interface connected to your Amiga you can march into a music shop and buy any piece of equipment that takes your fancy, safe in the knowledge that it will work perfectly with your set-up. Making use of MIDI instruments requires access to a MIDI sequencer program, such as Music-X or OctaMED (which has MIDI facilities built in).

Getting started with MIDI

If you want to start using MIDI, the first thing you'll need is a MIDI interface (such as the ProMIDI interface from Hi-Soft). This interface connects to the serial port and provides the electronic filtering needed to change normal RS232C serial information into MIDI data and vice versa.

Next on the shopping list is some kind of instrument. What you should get depends entirely on your budget and what style of music you are interested in. If you are a total beginner, I would recommend a small multi-timbral unit such as Yamaha's QY10 (or new MU5) which you should be able to pick up very cheaply second hand. This is a portable box, about the size of a video cassette, offering eight different voices and many different sounds, including two drum kits. Each voice can play several notes at once, so you will be able to play piano chords, strings, bass and drums without running out of voices – and all in very high quality.

The obvious disadvantage to the QY10 and other portable modules is their lack of full-size keyboards. You can choose to buy a MIDI Master keyboard, but as these tend to be rather expensive and don't actually make any sound themselves, you might prefer to look out for a keyboard synthesiser such as a Yamaha SY35. This way you get a great multi-timbral sound source and an excellent full-size velocity-sensitive keyboard.

If you are hankering for some really powerful sound sources, consider the Korg or5/w or Yamaha MU80 or TG500 – all small boxes with 16 or more channels offering hundreds and hundreds of different CD-quality sounds. They range in price around the £500 to £700 mark, but offer enough sounds to keep you happy for many months. Remember to check out our sister magazine, Future Music, for up-to-date reviews and prices.

If warm analogue synth sounds with lots of filter sweeping effects are your thing, look for the BassStation. This miniature two octave keyboard is a monophonic synthesiser with lots of knobs and switches – and it's also a very good (although short) Master keyboard. The company responsible for the BassStation, Novation, also produce a 'dumb' MIDI keyboard which you might find useful for using with an Amiga program such as OctaMED.

Remember that if you have several sound sources you will need some way of listening to them. For combining several instruments you will need a mixer, which will cost you about £200. You will also need an amplifier and speakers, although you should be able to press a hi-fi into standing in for a dedicated sound system. An effects box would be useful too, for adding echo, reverb or other weird sounds before recording your completed masterpiece for others to enjoy.

Provide a sample, please

Getting sounds into the Amiga cannot be done without external hardware, although the price of a 'sampling cartridge' is pretty minimal. Samplers work by using a special 'analogue to digital chip' which converts the sound waveform into a stream of numbers. When these numbers are sent back through the Amiga sound hardware, the result is the original sound (it's a similar set up to digital telephone lines). By sending the numbers through the playback hardware either slightly faster or slightly slower, the pitch of the original note can be changed.

This is how the same sample of one piano note can be made to play a tune. Performing various mathematical functions on the sample makes it possible to create special effects such as echoes, delays, fading and filtering.

As the normal Amiga sound playback hardware works with 8-bit resolution, the cheaper sound samplers are all 8-bit, too.

However, with a device such as Aura – which has its own playback hardware – it is possible to play sounds with higher resolutions. Aura deals internally with its 12-bit samples as though they were actually 16-bit, which makes any transformations or manipulations sound considerably better.

Again, it is possible to buy stand-alone MIDI hardware for sampling. MIDI samplers are usually very expensive (most have their own floppy or hard drives), but have the distinct advantage of being able to simultaneously play back very many samples with 16-bit resolution.

Reviews

Music-X 2

Music-X has a special place in the history of Amiga music, because it was one of the first MIDI sequencers to make real use of the Amiga's abilities. It is still unique in many ways, and having tried sequencers on other machines I find that Music-X is still my favourite.

Eventually, the original program and the cut down Jnr version made it through an upgrade to version 2. This fixed some bugs in the original, added an ARexx port and some extra commands, and bolted a very competent notation package on to it called NotatorX.

The differences made to the sequencer itself were pretty minimal – the screen is still 200

lines long and ugly as hell, the 'end of sequence marker' can still get confused, and the Librarian and Filter options are rarely useful. However, despite its age it's still a really great program. It takes a long time to get to know it properly but the time spent is an investment.

What makes Music-X so special is the way it records MIDI tracks into sequences. Each sequence can contain information spanning several channels, including notes, volumes, control changes (such as volume or filter settings) and patch settings. The sequences can then be edited, fine-tuned and generally fiddled with until everything is hunky-dory. There are a few tools for quickly getting timing and levels right, but if you are an ARexx fan you could write your own.

The really smart thing is that sequences can also trigger other sequences so you can build up a tune from lots of other sequences – for example, verse, chorus, verse, chorus, bridge, verse, chorus. Each of these sequences themselves would contain other tracks such as percussion, base, lead, strings and so on. And inside these tracks you find the actual note and other MIDI information. The entire collection of sequences can then be played in one go, or in a live 'jam' – something which I have yet to see on any other system.

If you haven't got MIDI instruments and intend to use Amiga sound samples you would probably be better off sticking to OctaMED, but if you have MIDI equipment and are still using a sound-tracker, don't. Get Music-X immediately.

Music-X 2

Price: £44.95
Supplier: Emerald Creative
Contact: 0181 715 8866
Verdict: 95% Star buy

Bars & Pipes 2.5

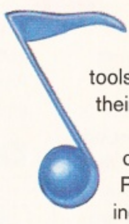
Easily the flashiest-looking MIDI sequencer around, Bars & Pipes is one *weird* program, but in a good way. Unlike other sequencers, B&P likes to think of incoming MIDI information as some form of virtual liquid which you can pipe around the screen, tap off into different sections and process to your heart's content.

If that sounds a bit weird, then I have explained it right. You could use it as just another sequencer, and simply play your MIDI songs into it (letting B&P split different channels into different tracks if required), then edit the result on a 'blob and graph' screen or in neat musical notation. Afterwards you could paste the sections together, and play everything back.

Alternatively you could make use of the extra tools and really go to town. For example, you can add echo or delay effects using a tool which emits another MIDI note packet but only after a pre-determined period of time. Or use the harmonising features or splitter to send different notes to different channels.

All the tools (and there are a lot, with others available as bolt-on packs) can either be applied in real time, as the music plays, or permanently to the recorded sequence – the choice is yours.

B&P even includes special 'multimedia' support for displaying pictures, sound samples and animations. If only Blue Ribbon had continued the development of this program it could have become the ultimate tool for almost everything. As it stands it is a little quirky when it comes to the multimedia side of things, but it still offers excellent sequencing features and an almost infinite variety of tools for those who enjoy experimenting with their music to get the most from it.



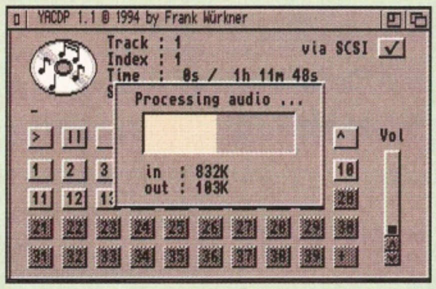
Also available from the same crew is a box called the 'Triple Play Plus' which Bars & Pipes can use to provide up to three individually mapped 16-channel MIDI interfaces. This is essential for large MIDI set-ups, because these days a single sound module can gobble up all your MIDI channels. At the

Sampling

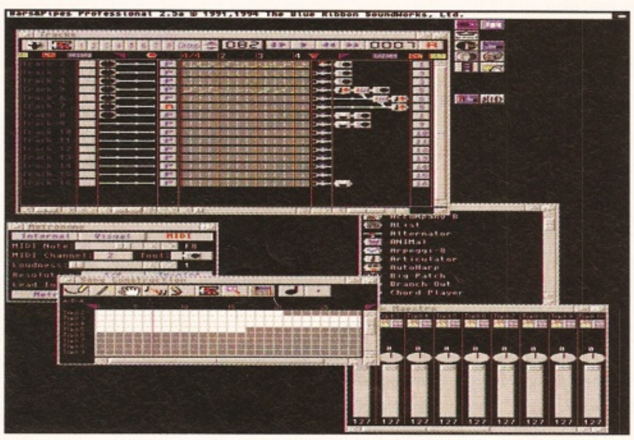
Sampling involves taking a sound waveform and converting it into digital form. Whenever you use a microphone you are converting a sound (which is a movement of air molecules) into an electrical waveform. This waveform is in analogue form, because it is smoothly changing – it is impossible to say how many steps up and down it is.

To digitally sample a sound, tiny snatches of the electrical wave are examined and rounded off into steps. The number of steps and the number of snatches determine the quality – an 8-bit sampler has up to 256 different steps, and an Amiga can use up to 56,000 snatches a second.

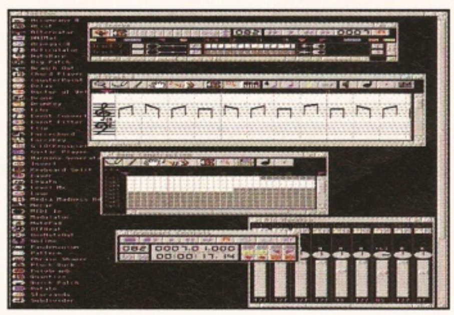
There are other ways to get samples into the Amiga than using an 'analogue to digital' converter (sampler). Some CD-ROM players support CDDA (Compact Disc Digital Audio) and these players can provide the music stored on audio disks in digital as well as audio format. With a PD program such as YACDP (above), the Amiga can process the digital data and create a standard IFF sample file without the sound having been played in analogue format.



> "What makes Music-X so **special** is the way it records MIDI tracks into sequences."

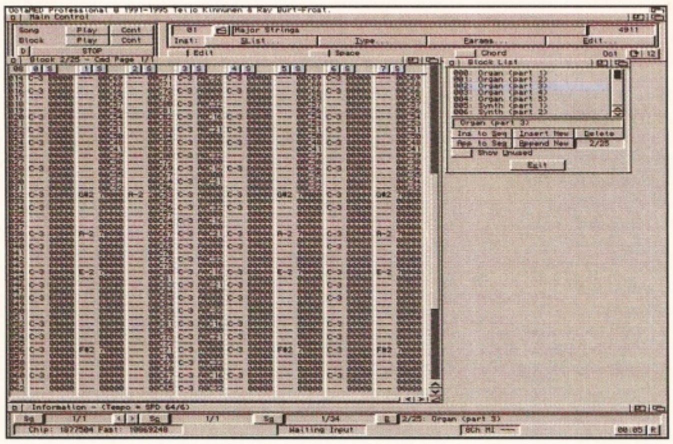


Easily the prettiest sequencer around, Bars & Pipes combines MIDI and plumbing to great effect.

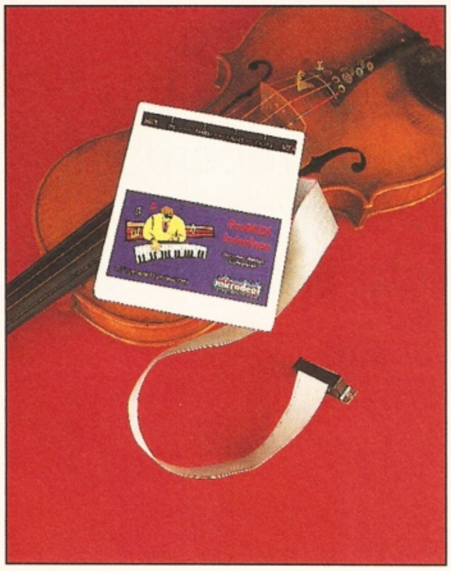


In Bars & Pipes editing tracks can be done in two ways – in non-musical 'blob' form for people like me, or with full notation like this for musicians.

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The 'normal' OctaMED track display exists in this version as you would expect, although the new window-based system lets you move everything around until you are happy with the layout.



The ProMIDI interface – an uninspiring wedge-shaped box. Still, the violin's nice.

OctaMED pricing

Here are the licenced suppliers of the English language version of OctaMED:

Great Britain: SeaSoft Computing
☎ 01903 850378

North America: Fred Fish
☎ 001 602 491 0048

Please see their adverts or phone them for prices because they will differ to those listed in this feature – they will probably be cheaper.

If ordering directly from RBF Software ☎ 01703 785680:

Orders from within UK: £38.00
Orders from within rest of EC: £42.00
Orders from rest of world: £44.00

If you are a Med User Group registered member, you will get a £10 discount. There are also French, German and Italian groups (contact RBF for details).

moment, the Triple Play Plus and B&P is the only way around this problem, short of buying another Amiga and sequencing them together.

Bars & Pipes 2.5

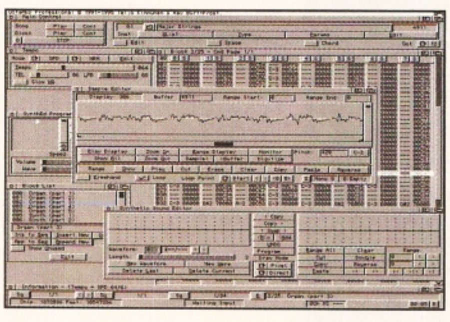
Price: £199.95
Supplier: Emerald Creative
Contact: 0181 715 8866
Verdict: 90% Star buy

OctaMED Pro v6

OctaMED has been around on the Amiga for as long as I can remember. It was always the best tracker program – it was the most friendly to use and got on best with the rest of the Amiga system. Whilst other coders wrote trackers which took over the entire Amiga, used weird file formats, couldn't cope with new hardware or simply crashed, Teijo Kinnunen struggled away turning a program for hackers into one that anyone could use.

Track programs were specially written to take advantage of the four-channel sound on the Amiga, and all worked by scrolling the required sampler up the screen, accompanied by volume and other information. The user added the right note from the keyboard into the right column, eventually creating a tune.

Through many revisions we now have version 6 – the 'Pro' version – which must surely be the ultimate in Amiga tracker utilities. OctaMED is much more than a tracker though, and there are zillions of editing functions as well as MIDI support – yes, you can use OctaMED to control outboard synthesisers. You could even use OctaMED to synchronize two Amigas, one running a dedicated MIDI sequencer, the other running OctaMED to provide sample playback facilities.



OctaMED can use samples (16-bit ones now) or synthetic sounds created from its own programming language.

Changes from previous versions are pretty obvious, because the entire look of the program has received a re-vamp thanks to the totally window-friendly system. No matter what your screen size, OctaMED will open windows in a sensible way and with a sensible font. This is why the screen shots here look huge – the program detected the Picasso card present on the test system and reacted accordingly. The new look has caused some of the well-known features to move around a bit, but it won't take long for users of earlier versions to catch up. New users will appreciate the on-line help feature, as well as the useful manual.

Other improvements include some welcome work done on the sound sampling section, which now provides support for the Aura sound card (and the Toccata if you can find one). Because of this 16-bit hardware, OctaMED is now at home with larger samples, and as a result can load and save PC style WAV files (as well as MAUD and AIFF). Both Aura and Toccata samples can be included in compositions, although only one sample at a time can be replayed (a drawback of the sound hardware, not OctaMED). MIDI file support has also been included for swapping ditties with other MIDI sequencers.

Dedicated tracks will appreciate OctaMED's ability to provide multiple layers of tracks and blocks, which means each note being played can have multiple effects applied to it. With the addition of ARexx you can get up to all sorts of mischief. It's these kinds of features, combined with all the extra bits and pieces like example source code and special player programs, which makes OctaMED the ultimate in tracking programs. This release must surely have pushed tracking software right to the edge – there is nothing more to add until a new batch of Escom Amiga's appear with 16-channel 16-bit sound and a DSP as standard...

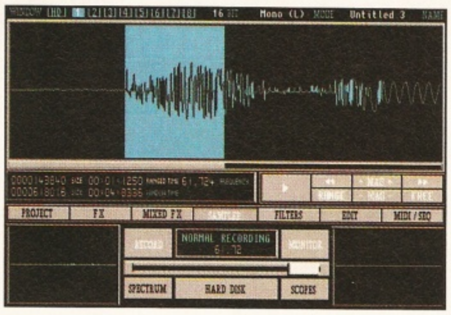
OctaMED Pro v6

Price: See box out (left)
Supplier: RBF Software
Contact: 01703 785680
Verdict: 95% Star buy

ProMIDI Interface

Available by itself, or in a bundle with Aura, the ProMIDI Interface is an uninspiring wedge-shaped box that connects via approximately 30cm of ribbon to your serial port. In exchange for clogging up this otherwise useful socket (through-connectors are for sissies), you get a MIDI IN, THRU and two OUT ports. This is the standard amount of connections, and is usually more than enough.

Thankfully there is no need for any form of driver software (this isn't a PC we're talking about) and so like every other MIDI interface (with one



Sampling is made easy with the terrific software which comes with Aura, and is possible either to memory or direct to hard disk.

exception – see later) the ProMIDI box works with any software.

Your choice of MIDI interface is really down to price and convenience. Do you *really* want a through-port for your modem? Do you find a cable extension worthwhile? Is Hi-Soft doing a good deal at the moment?

It's rather sad to see that after so many years of producing MIDI interfaces, no-one has yet come up with a rival to the expensive Triple Play Plus system and so only Bars & Pipes can break through the 16-channel limit.

ProMIDI Interface

Price: £89.95 with Aura, £24.95 alone
Supplier: Hi-Soft
Contact: 01525 718181
Verdict: 75%

Little Gem Micro Mixer

If you enjoy using a program like OctaMED, you'll probably want to record your tunes to tape in order to share them with/torture your friends. You may even want to send your creations into a record company and get that elusive contract (see our feature in AS53). In all these cases it's essential to make sure you record your work with the best quality possible.

The Amiga has a few drawbacks when it comes to recording its sound output. For starters, the supplied hardware filter isn't that great – most programs switch it off almost immediately to avoid a painfully muffled effect. Worse, the position of the two stereo channels cannot be changed and by default they are panned hard left and hard right which makes them extremely hard to listen to, especially on headphones.

This neat little box from Gillett (don't they make razors, too?) addresses these problems and attempts to sharpen your sound (ho, ho). Each Amiga channel is fed into the unit, and then passed on to your amplifier or tape recorder as usual. The unit itself is battery or mains powered (via a transformer, which is not supplied) and features four variable controls for each input channel.

Gain boosts the volume of the sound so you can match it to the level required, thus ensuring that when recording you make the best use of the tape by avoiding hiss and reducing distortion. The two filter controls allow you to cut or boost the bass or treble components of the sound, which can make a staggering difference to any sample, MOD or game alike. Finally there is a Pan control, which will alter the position of that particular channel in the stereo image. Putting this control only a short distance from centre position makes any Amiga a lot easier to listen to, giving it a more professional feel as a result.

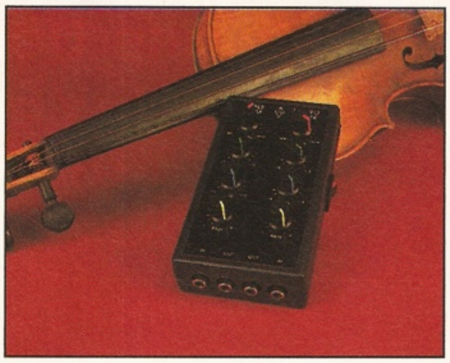
To be picky, the Little Gem is really two sections from a standard audio mixer, and in this respect is actually a little pricey. For twice the cost you can buy a mixer with four times as many tracks. With more tracks you can add extra instruments (another Amiga, for example, some MIDI gear or even a microphone) as well as sending the mix to an outboard effects unit. If the Little Gem offered even two more channels and a headphone socket it would jump from the plain 'useful' category and receive a 'very useful indeed' accolade.

Little Gem Micro Mixer

Price: £69.95
Supplier: Gillett Multimedia
Contact: 01353 669203
Verdict: 80%

Aura

Aura is neat, there is no other word for it. It's housed in the same wedge-shaped box that all MicroDeal/Hi-Soft peripherals seem to come in,



Feed your sounds through Little Gem Micro Mixer to make a higher quality end recording.

Internet resources

The first place to look on the Net for computer-related music material has to be Future Music's homepage on the FutureNet site: http://www.futurenet.co.uk.

For a vast collection of MOD files, make sure you try the Aminet sites, for example:

http://wuarchive.wuestl.edu/~aminet

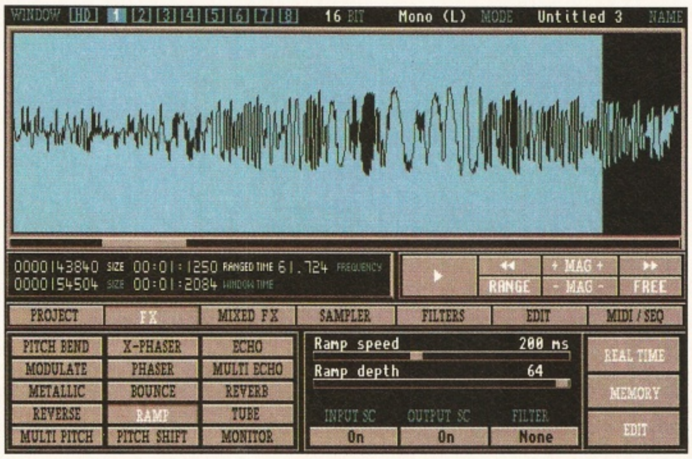
Also on this site, have a peek in /systems/ibmpc/ultrasound/sound/midi/files for some MIDI files.

Other sites of interest to musicians are:

oak.oakland.edu
ftp.eng.ufl.edu/pub/msdos/demos/music/
ftp.funet.fi/pub/sounds/midi
ftp.cis.nctu.edu.tw/MIDI/SONGS/

Check out the Amiga Shopper home page for more links, too!
http://www.futurenet.co.uk/computing/amigashopper.html

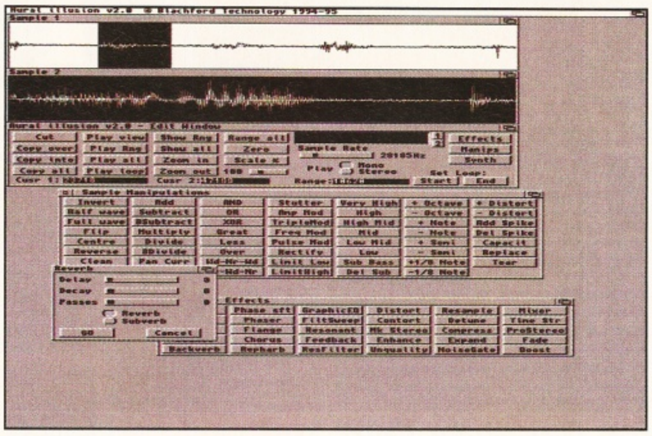
In Aura, effects are available for processing the samples, or for 'real time' use on incoming sounds. Cheaper than an effects box...



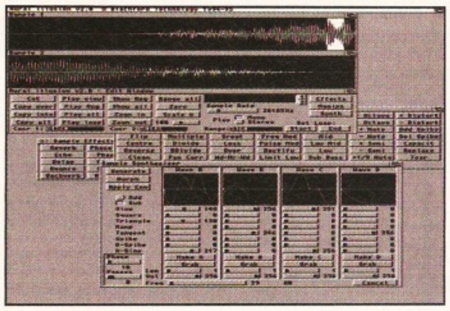


Aura is housed in the same wedge-shaped box as the ProMIDI Interface, but is a package of a much higher quality.

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More tools for your money – Aural Illusion packs in the options to turn a perfectly normal sample into a very weird noise.



Aural Illusion is capable of editing samples in 16-bit, and then converting them back to 8-bit form for compatibility. It can also create its own samples with a unique synthesiser section.

"The extra **quality** of Aura is easy to hear."

but rather than using a flying lead to the parallel port, this one has a PCMCIA connector to fit to the side of an A1200 or A600. There are three sets of stereo Phono connectors: a pair for stereo in, a pair for stereo out, and a pair to be connected to the standard Amiga audio to act as a 'pass through' for normal Amiga sound.

Inside the box are some sound chips capable of both sampling and replaying in stereo with 12-bit accuracy, as opposed to the 8-bit standard of the Amiga. An extra four bits might not sound like much, but it makes a heck of a difference in terms of quality – any sampled sound is much, much clearer when grabbed and replayed through Aura. Having extra Fast memory or an accelerator allows the sampling rate to be kept high, but even an unexpanded Amiga will benefit.

The supplied software is also excellent. The editing and processing features are very good indeed, and there are plenty of extra facilities. Effects can be performed live on incoming sounds, or on previously sampled sound held in memory or on disk. For the sake of it you can sample directly to hard disk, so if you fancy moving your record collection into the digital domain get yourself a Gigabyte drive and start sampling. Processing is all done with 16-bit accuracy, which means that even after extensive messing about the sounds are still extremely clear.

Samples can be replayed either under keyboard control, responding to MIDI information, or even using the included mini-sequencer package. The MIDI support is very welcome, because Aura could come in handy for replaying media snatches, or even acting as a drum machine.

The extra quality of Aura is easy to hear, and thanks to the extra four bits a measure called the SNR (signal to noise ratio) is greatly improved – Aura can actually get pretty close to that of dedicated samplers. Unfortunately, the Aura hardware can't replay more than one sound at a time, so it's not going to replace a £1,000 dedicated machine such as the Emu ESi32. What it will do is provide an easy and cost effective way of increasing the quality of any samples you make. Even if they are only going to be replayed on another Amiga the extra quality is evident. Combined with OctaMED you gain an extra high-quality sound, and with Aura's internal mixing facility you won't need extra mixers to listen to it.

Aura

Price: £89.95
Supplier: Hi-Soft
Contact: 01525 718181
Verdict: 96% Star buy

Aural Illusion v2

Recently updated, Aural Illusion is a sound sample manipulation package especially written to work with samples stored in 16-bit format.

Samples can either be loaded from disk (several formats are supported, including WAV, VOC, IFF, AIFF and RAW) or created from scratch in a unique synthesiser section which allows you to combine various waveforms and morph or blend them together. Samples which are only eight bits in resolution are converted into 16-bit for processing, and can then be re-saved in 8-bit form for use in programs such as OctaMED. There is no support for sampling hardware, so you will need to capture your samples first, save them, and then load Aural Illusion for some post processing.

This new version fixes a few bugs and adds even more tools and effects, which can be applied to the sample currently held in memory. Processing lengthy samples can take time, so

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Now hear this!

Once you start to make great music on your Amiga, you soon realise that playing it back through the speakers on your TV or monitor is not good enough. So, link up a stereo to your Amiga, using the CD input at the back of most stereos. Even better, get a set of speakers that are designed for computer use.

Once such pair is the AIWA SC-C55, pictured here. you can read the review of them on page 45 of this issue.

What's more, AS have teamed up with AIWA to give away a set of speakers to three lucky readers. The competition is on page 96, where you also have the chance to win one of two AIWA ACD-300 CD-ROM drives!



CD-ROM SOFTWARE

Active Software, Dept AF74, P.O. Box 151, Darlington, Co. Durham, DL3 8YT - Tel : (01325) 352260

PHANTASMAGORIA

professional backgrounds and textures

Phantasmagoria are a professional graphics firm based in Bristol, Avon. They have provided textures and backgrounds for video, ray-tracing and image work for the last five years. Their entire collection, consisting of 520+ 24Bit backgrounds and textures, is present on this CD-ROM. There are the very high quality 24Bit JPEG files for video, graphics and multimedia work and 256 colour GIFS for Scala and raytracing. No wasted space on this CD-ROM! For instance, no multi-graphics files such as Targa, PCX or even more obscure formats that are found on other texture CD's. You will not find many tools on this CD either. Picture viewers are provided for Amiga, PC and Mac computers. For Pro and Novice Users!

INCLUDES FULL COLOUR REFERENCES FOR EVERY IMAGE

new release - out early July £29.99



3D ARENA £22.99

A superb 3D CD that recently received 94% from Amiga Format! Contains ma objects for Imagine, Lightwave and Real 3D for the Amiga and PC computers. O exclusive aspect for this CD is the 24Bit Club's objects/images for Lightwave. Yo only find them on here! Along with the objects there are attribute files, tutoria utilities and a demo version of Real 3D v2.35. Superb 3D CD for all Amiga/PC use

GFX SENSATIONS £18.99

The Graphics Sensations CD-ROM is a collection of the best graphics tools, 24B images, animations and a huge collection for Imagine and Lightwave users. For Imagine there are anatomy, animals, aviation, bathroom, botany, buildings, clocks computers, food, kitchens, lamps, ships, space, sports and much more!

LIGHT WORKS £32.99

Light Works is a fascinating compilation brought to you by the much respecte Tobias J. Richter, reknown for his amazing spaceships of famous science ficti films. The objects are complex, highly detailed and seem very real due to the supe surface texture techniques used. This CD is ideal for experts and begineers in t world of raytracing.

ZOOM

Active Software and Ground Zero Software, the leaders in the very latest Amiga public domain, announce the release of the best CD this year - ZOOM. Zoom not only contains the latest PD from all over the country, the Aminet and BBS sources it also contains some exclusive products which will appear on the CD before they appeared in our adverts or any other PD libraries advert. The interface is a custom-written, GUI based design, coded by the author of the famous disk magazine Deadlock. Select the file you want to read about, read the information then click to de-compress! Easy as that. Over 540MB of data, (over 1.1 GIGs of uncompressed files) offering the user access to 1000+ of disks! Must be one of the most comprehensive CD's this year!

brand new release - out NOW!! £19.99

CD-Rom Comparison Chart

	Zoom	Hottest 5	Phase 4
Over 540MB of Data	✓		
Easy to Use GUI	✓		✓
Over 1000 Disks	✓		
Very Latest PD	✓		
Outstanding Value	✓		✓
Free Booklet		✓	

- * The latest PD from December to June: Utilities, games, demos, slideshows, education, disk mags and more!
- * Over 80 Klondike/Card Games Deluxe Cardsets
- * Ground Zero's Themed Imagine Objects
- * All the Professional Disk Packs - including 8+ NEW Packs!
- * Gathering '95 Demos/GFX/Mods, Other "Party" Demos
- * Some Exclusive and New AGA Slideshows
- * Over 20MB+ of Magic WB icons, backdrops, drawers etc

How to Order

Choose the compact discs that you would like to order, add 75p postage to the total cost and send a cheque or postal order payable to Active Software to the address above. Call for credit card acceptability or for an enquiry on (01325) 352260.

Wanted!

As you will see from the advert we are working with a company to produce their CD-Rom, Phantasmagoria. We also have a number of other CDs due for release later in the year. If you would like to produce a CD, have a workable idea for a CD then contact us immediately. We offer generous rewards.

MULTIMEDIA TOOLKIT II £26.9

1000's of clipart, fonts, samples, modules and midi files. Many, many tools and utilities to improve your multimedia presentations. All the items run straight from the CD. Octamed 5.04, the full version, is included (with Aura support), support files from many Octamed experts. Over 50MBs of Midicraft midi files, samples and modules (Midicraft are professional musicians working with the Amiga to create their music). 200 MBs of Imagine and Lightwave objects. Volume one was a hit and multimedia users should not miss release volume two.

MEETING PEARLS 2 £9.99

The Meeting Pearls 2 CD-ROM contains:

- 9MB Disk, Hard Disk and CD-ROM tools (SCSI)
- 23MB Developer Tools, Commodore Includes
- 59MB Text, FAQs, CD Content Files etc
- 13MB Games
- 22MB Selected HTML Pages
- 52MB Graphics Programs
- 16MB From the Party '94
- 13MB Various Tools
- 8MB Educational Software
- 46MB Net BSD for Amiga
- 18MB Terminal Programs
- 22MB Animations
- 35MB Pictures
- 6MB Music Programs
- 17MB Fractals
- 82MB TEX Installation
- 36MB Movie Database
- 31MB Archive for Psion

NEW

SUPER BARGAIN CD

DEMO MANIA

Some of the very best Amiga mega-demos, extractable from an easy-to-use de-compressor. Most of the demos come from 1994 and include Spaceballs "9 Fingers" and Axis "Big Time Sensuality", Polka Bothers "Gevalia" and many more. £17.99

WS ANIMATIONS

A double CD animation extravaganza! All the animations are ready to run from the CD, through an Amiga Guide file system. Some stunningly large animations, some over 5MB in size. Suitable for both the Amiga and PC.

DOUBLE CD £18.99

CD BOOT v1

This allows you to use any CD32 game on your A1200 or A4000. You can create a config file for every game, storing joypad info etc. Comes with a complete English based manual and can run around 98% of CD32 games. £27.99

SOUNDS TERRIFIC

This CD contains over 1.2 Gigs of sound and music data. It will form part of any professional musicians library or amateurs collection. 4,600 modules, 14,000 samples, 568 Sonix scores, 4500 instruments, 302 octamed modules and more!

DOUBLE CD £18.99

HOTTEST 5

Hottest 5 contains some of the very best games, demos,utilities, animations, slideshows and more from October to early February this year. This CD also comes with a 50-page black and white booklet and BBS support on the compact disc itself. £14.99

AMIGA DTV

Many orig textures s this C R O M Backgrou in JP format, c 200 co anti-alia fonts, 3D object data for Ligtwa Imagine and Scuplt. It also cont many up-to-date utilties such as M Actor, Ham Lab, Fracint, Anim pla and more. £13.9

ADULT SENSATIONS

This CD is for adults only, it contains soft porn material no worse than the Sun newspaper. If this material offends you in any way please refrain from purchasing the CD. Proof of age (18+ only) needed when buying this CD. No proof = no CD. We do not condone or supply hard core material £17.99

17 BIT PHASE 4

This was the most popular CD in our collection around Xmas '94! Contains all over 17Bit Software's library from January to October 1994. All the files are DMS'ed and can be un-crunched from an interface. £16.99

UTILITIES 1-1500

The utilities 1-1500 CD contains the very best utilities and tools from PD Soft's library (mainly during 1994). Education, business, sound utilities, hobbies, emulators, programming, printer tools, virus killers and much more! £17.99

ULTIMEDIA

Ultimedia is a double-CD-ROM and contains megabytes of images, textures, sounds, animations, as well as IFF pictures, GIFs WAVs and FLICs. Enough to keep any multimedia freak entertained for ages!

DOUBLE CD £22.99

WS FONTS

Another popular Wierd Science compact disc. This CD contains 2000+ Adobe and CG fonts, some PS fonts, 500+ bitmap, 190 coloured, 240 IFF, 139 Pgs, 24 Prodraw, 500 Truetype, 132 PCX, 300 GDOS and more! £8.49

WS CLIPART

Must be nearly third in the most popular CD ever produced. Contains megabytes of B/W IFF bitmaps, colour IFF, proclips, EPS, Pagesetter, Pgs, IMG, Corel Draw and coloured brushes for Deluxe Paint. Bargain! This CD-Rom is suitable for Amiga, PC and MAC computers. £8.49

VISIONS

This is another multi-format CD. It contains 500 great stock photographs and images. All are royalty free and are in GIF format: 640 x 480 and 600 x 800 resolutions. Outdoor scenes, animals, the seasons, fractals, buildings and many more. Suitable for Amiga, PC compatibles and Mac. £21.99

HOTTEST 4

This all you to any C game your A1 or A4 You create config fil every game, storing joypad info Comes with a complete English b manual and can run around 98 CD32 games. £14.9

ILLUSIONS IN 3D

Here is a CD with loads of 3D hidden pictures, the utilities you need to create your own images and also the objects needed to create the 3D "hidden" effect! Programs such as Stereogram to produce the image as well as hundreds of source files in a myriad of gfx formats, 3D text images and 3D images (PCX, IFF, BMP). £8.99

INTERNET INFO

17,420 text documents straight from the Internet. FAQs on every subject imaginable, dosc on computer security, Internet network maps, discussions from Usenet, Internet guides and more. An ideal way for the novice user to understand the Internet before they commit themselves to a subscription. £14.99

GIGA GRAPHICS

Giga Graphics is the ULTIMATE collection of graphics for the AGA Amiga. Over 10,000 images on this quad-pack CD. All images are in 24 Bit and HAM 8. Superb price for 4 CD's! Suitable for all AGA Amiga owners.

QUAD CD £34.99

SOUND WORKSHOP

Over 1 Gigabytes of data on this double CD. Includes MIDI files in various formats (MDI, MIM), hundreds of MB's of music to listen to or change/edit for your own applications. Over 5000 modules, 1000 VOC files, 1000 WAV files, 1000 samples.

DOUBLE CD £18.99

DEMO CD 1&2

Over 100 games ready to run, many large animations that spool from the CD, over 6000 IFF samples, over 2000 protracker music modules, MBs of classic demos, 100s of images in IFF format and much more. Works with the CD32 but mouse recommended. £15.99

SPECCY SENSATIONS

Do you remember when the Spectrum was King? Forget the "future" consoles relive the old days with this beast of a CD! Play Jet Pac, Knight Lore, Arcadia, Jet Set Willy, Attic Attack, Exolon, Commando, and many many more. Emulators for, and can be used on, the Amiga, PC and Mac computers. £14.99

TEN ON TEN £35.9

Almathera present a collection of ten (10!) CD-Roms for your satisfaction. Ten CDs for under £40 - a bargain! It contains,

Team Yankee	- action packed 3D tank sim
Pandora's CD	- 2000 clipart library and mor
World Vista Atlas	- world multimedia explorer
Illustrated Shakespere	- classic text
CDPD 1 & 2	- loads of classic PD on here
Demo1	- nostalgic demo collection
Comms, Networking	- a comms compendium
Fonts and Clipart	- full of various fonts/clipart
Photo Library	- 600MB of image files

GOLD FISH

GOLD FISH I

Fred Fish has been serving the Amiga PD market since inception, in 1985. His utility disks were very popular and has led onto these two gold compendiums. Really, you can't go wrong with these.

GOLD FISH II

Continuing the tradition this double CD brings you the very best PD releases from Fred Fish. All the PD is from Oct '93 to Nov '94 and is in archived and BBS ready-to-run formats. An excellent CD!

GOLD FISH I £23.99

GOLD FISH II £24.99

LIGHT ROM

Light Rom volume one contains 3D objects, many example images, image sequences, scene files, surface attributes, bump maps and textures. Produced by M.Meshew. Light Rom volume 2 contains 100% Lightwave/Toaster material with over 300MB of data that didn't appear on vol.1. Collections of 3D models from various Lightwave artists including Kevin Lude etc. Superb collections!

VOLUME ONE £27.99

VOLUME TWO £34.99

THE AMINET COLLECTION

AMINET SET 1

This must be one of the most popular CDs ever! This is BIG, really BIG! Contains over 4 gigabytes of Aminet files [in un-compressed format - compressed on CD] from end of [illegible] to December 1994. A four CD [illegible] that is divided into different categories with a easy-to-use Amiga Guide interface. 91% Amiga Format. [illegible]

AMINET SET 1 £24.99

AMINET 5

Aminet 5 follows in the footsteps of volume 4 and Aminet set 1. It contains Aminet files from Nov 1994 to February 8th 1995. Only £11.99

AMINET 6

Aminet 6, dated June 1995, will be one of the best selling CD's of 1995, after Zoom of course. It should contain (full details unknown at time of going to press) all the Aminet uploads from Feb 9th to June 8th.

AMINET 6 £13.99

GAMES CD-ROMS

ASSASSINS

All the first 200 disks are present on this compilation. All the games are ready-to-run from the CD - from an easy to use graphic user interface Another excellent CD!

GAMES DELIGHT

40 different Amiga games: Action, card games, strategy games. All the games on this CD-ROM are commercial, no public-domain. Works with the CDTV/CD32.

ASSASSINS £16.99

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FRESH FONTS

Volume 1 contains 626 MBs of freely distributable fonts, 200 font families such as Deco (71 fonts), Non-Latin (31), Pictures (17), Serif (23), Sans Serif (31), Script (27). Volume 2 contains 632 MBs of fonts with the copyrighted Thienen family. 231 families in total each with 8 different styles : Deco (63 families), Sans Serif (29), Script (36), Thienen (19) and more!

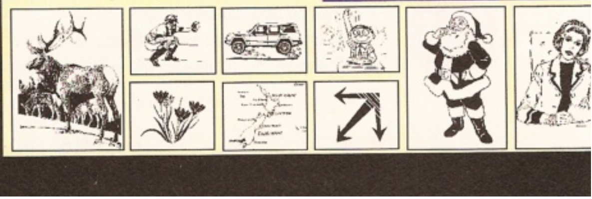
VOLUME ONE £16.99

VOLUME TWO £17.99

PRO CLIPART 2 £18.9

This is a multi-format CD that contains data in IFF and PCX format for Amiga and PC users. Includes categories such as animals, boys, cultural, floral and natural, girls, holiday, literal, mythological, sce transportation and work images. Also bears, cats, dinosaurs, dogs, insects and horses and cultural images Egypt, Japan, Native America, Polynesia and Persia. All in all one excellent clipart collection for Amiga/PC..

Includes a 250 Page Book



LSD COMPENDIUMS

Volume 1

LSD were "famous" for their excellent disk magazine and LSD Legal Tool compilations. This CD carries on this tradition of quality productions...bringing you one of the best CDs from Autumn 1994.

Volume 2

Contains some elusive software that never makes an appearance on other compact discs. There is a lot of "Aminet" material on here but if you need that elusive utility then this is the place to look.

Volume One £16.99

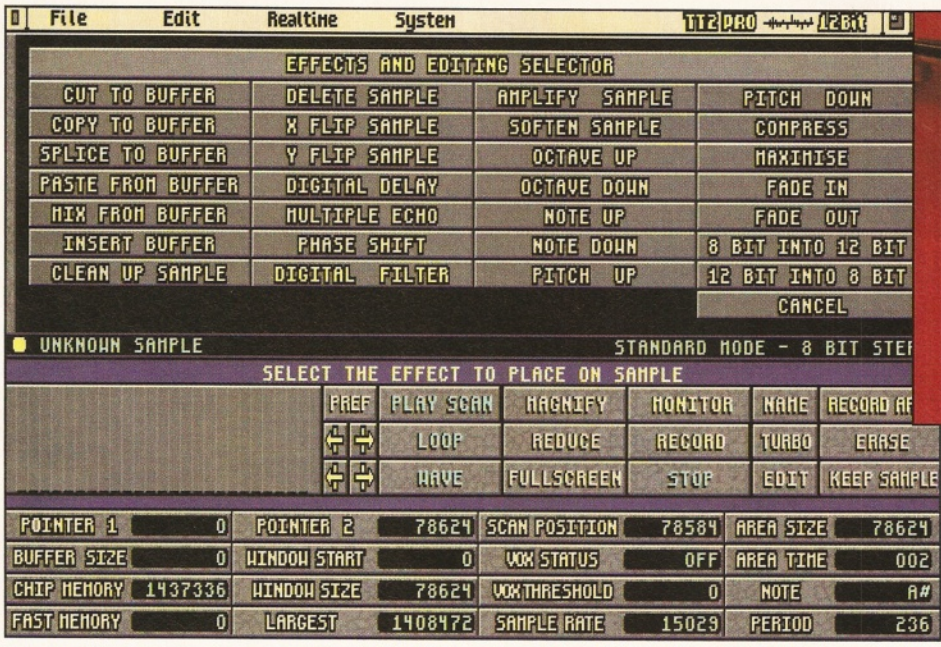
Volume Two £17.99

FRESH FISH

The Fresh Fish range of CDs are very popular with the avid collector of Amiga public domain. All volumes are DOUBLE CDs. Volume 9 contains: the complete set of GNU tools, including EMACS, text utils etc, the Commodore N.D.U.K., PasTeX inc 60MB of pk fonts, FAX fonts, 600 DPI fonts, hardware and software reviews, and many more files.

VOLUME 8 £23.99

VOLUME 9 £24.99





Above: The TechnoSound Turbo Pro 2 – now sampling at 12-bit quality.

Left: Also new to TechnoSound is a software-based filter for making the best of all the samples. You can remove hiss or hum from otherwise perfectly acceptable sounds.

> **"MOD files are the music medium of the Amiga world, and there are dozens of different players to choose from."**

31 ▶ extra memory and an accelerator would be a very good idea if you plan on manipulating a lot of sounds.

For a dedicated sampling package, Aural Illusion suffers from a few omissions. In particular it would be nice to see a MIDI sample dump option, where a normal sample is stored as a MIDI file. For those with slightly less expensive hardware, the ability to play samples back through Aura would also be helpful. The program itself also needs a good polish – compared to the features of the Aura software it doesn't come out so well, with annoying time delays when replaying samples and a confusing user interface. It also lacks the excellent FFT 3D graph displays of the Aura software and has a tendency to guru.

If you have Aura, you probably won't gain much with this program, but if you don't and you want to make the most of the samples you already have – or create some new ones – this program will give you scope for experimentation.

Aural Illusion v2

Price: £20
Supplier: Seasoft Computing
Contact: 01903 850378

Verdict: 75%

TechnoSound Turbo Pro 2

The TechnoSound is a real Amiga classic: an 8-bit sampling cartridge that clips directly on to the parallel port. The only two connections are for the sound input, which can be taken directly from the headphone socket of a portable cassette or CD player with the leads supplied.

Almost all the 8-bit samplers are based on exactly the same analogue-to-digital chip, so it is the software that makes the difference. In this case we have the very latest version of the Turbo software, which from now on will be bundled with the sampling cartridge.

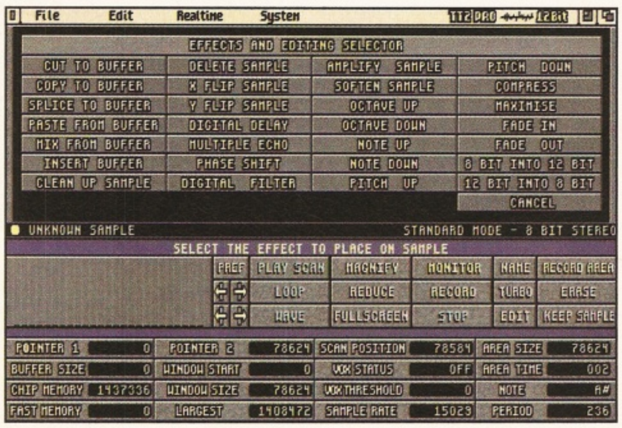
There are many improvements over the original, most of all a move to 12-bit internal processing. This gives more headroom and provides that tiny amount of extra quality. The real reason for the 12-bit move, of course, is the launch of New Dimensions's own 12-bit sampler. It looks almost exactly like the 8-bit version except for the small through-port box which connects to the serial port. By using the serial port it's possible to get another four bytes into the sampler, thus improving greatly the sound quality.

It doesn't sound quite as good as the Aura, and it isn't quite as flexible – you can't sample to hard disk, for example – but there are advantages, especially if you don't have a (free) PCMCIA port. It also might seem a bit daft having a 12-bit sampler but only having 8-bit sound replay – there are no sound output functions on the new hardware. However, the extra bits do make an unmistakable difference to the sound quality.

Other features added to the sampling software include a very smart software-based filter system, and a large batch of new processing functions, all working in 12-bit for best results.

With high sample rates (possible on an A1200 and better), the 8-bit samples can actually sound rather good. Combine this sampler with the Little Gem's high and low ▶ 35

The new version of TechnoSound Pro adds an entire screen-full of new processing functions, all with 12-bit accuracy.



Picasso II RTG

Liana

Are you in need of a fast and easy connection between two Amiga's? Liana, the low-cost network solution, is exactly what you want! Just plug it in, install the software, and it runs! Nothing could be easier than that. Liana is the network solution for those with a small budget and big needs. You can even share your hard drives and printers.

- For every (!) Amiga from WB 2.0 on with a free parallel port
- Includes cable
- Includes Commodore's Envoy networking software
- English manual
- automatically reconnection after (re-)booting without new startup
- Every machine usable as server and client

£ 64.95

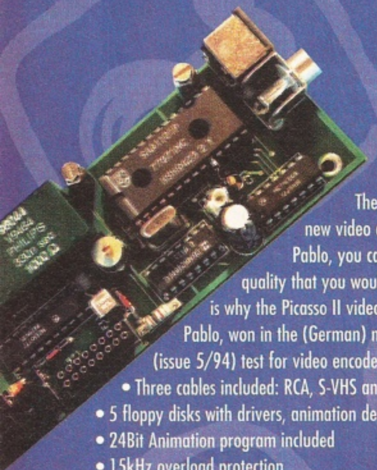


Picasso II RTG, the graphics board all others are measured against:

- Graphics board for all Amiga's with Zorro-Bus - Workbench driver to retarget all programs and WB to the Picasso
- Supports up to 256 colors with WB3.1, even on A2000 and A3000
- WB resolutions definable up to 1600 x 1280 pixels
- HiColor (16Bit) and TrueColor (24Bit) graphics: 16M colors!
- Drivers for most graphic programs such as AdPro, ImageFX, ImageMaster, Real3D
- Allows connection of any VGA or Multiscan monitor
- A1084 and A1081 are still usable with a special cable
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- System-compliant implementation of monitorfile, resolution selec table using screen mode-requester
- Monitor-File compliant with System 2.x or higher, resolution selectable using screenmode requester
- View regular Amiga and special PicassoII-RTG screens on same Monitor without changing cables.
- Screen promoter to make older programs work on Picasso
- Draggable screens
- Available with 1MB or 2MB, upgradable from 1MB to 2MB at anytime

2 MB

£ 329.95



Pablo

The video module, Pablo, expands your Picasso II with two new video outputs. Using the Pablo, you can view your Picasso output on any TV or VCR. All with quality that you would only expect to see from broadcast video encoders. That is why the Picasso II video encoder module, Pablo, won in the (German) magazine 'Amiga Magazin' (issue 5/94) test for video encoders.

- Three cables included: RCA, S-VHS and SCART
- 5 floppy disks with drivers, animation demos and more
- 24Bit Animation program included
- 15kHz overload protection
- 2 well written manuals
- Plugs onto the Picasso II - no Zorro-Slot required
- Easy installation of video modes

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Ariadne

Don't get overwhelmed with the complexity of setting up a network, use our Ariadne Ethernet card that is compatible with all Amigas that have an available Zorro Slot. This card is not only easy to network - it also equipped with 2 additional parallel ports offering multiple network solutions.

- 10Base-2 (Thin Ethernet, coax-cable) and 10Base-T (Twisted pair, western jacket)
- Socket for Boot-ROM
- SANA-II compatible driver for ethernet and parallel port
- Hook up to two additional Amigas to the parallel ports with Liana
- 32KByte cache to support CPU
- Includes Commodore's Envoy networking software
- English manual



£ 219.95



NEW!!

MainActor Broadcast

MainActor Broadcast is a completely new Animation-Program. It works on all Amigas with at least 512kB RAM und Amiga OS2.04 or higher.

Features:

- More than 20 load- and save-modules for animations and pictures (AVI, BMP, DL, FLI, FLC, GIF, IFF, IFF-Anim3/5/7/8/J, JPEG, PCX, Quicktime,...)
- Complete AVI, Quicktime and JPEG Support up to 24 bit
- Index-file for quicker reloading of animations
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- Effect modules for generating effects directly into the animation (Text, Scroll, Scale, Rotate, ...)
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BBS +44 (0) 1908 2614-99

filters and you'll get some very crisp and pleasant sounds. If you want even better quality, invest in the 12-bit hardware.

TechnoSound Turbo Pro 2

Price:	£39.99 (for 8-bit version & software) £39.99 (for 12-bit hardware)
Supplier:	New Dimensions
Contact:	01291 690933

Verdict: 84%

Shareware support

Because of its mass appeal, it's not surprising that the Public Domain offers so much support for Amiga musicians. As well as the alternatives to commercial packages, like QuadraComposer, there are a lot of programs that are meant to be companions to the commercial software. Seasoft have several disk sets that should be investigated. There are two volumes of Midi Utilities (disks 1989 &1990) as well as a MIDI tutorial (1462). Music-X users are well catered for with two volumes of utilities which come on a total of five disks (1991-1995).

There are two disk-based music mags: Total Irrelevance (OctaMED) and MidiCraft.

The disk prices start at £1 per disk plus 50p P&P and the magazines cost £2.50 per issue. Phone Seasoft on ☎ 01903 850378.

The Shareware options

MusicWeb v2

What if you could take incoming MIDI information and manipulate it just by drawing interconnecting boxes on screen? Wouldn't it be cool if each box would contain an input, output or processing element, and you were free to link them altogether in anyway you wanted? MIDI Utopia? No! This is what the MusicWeb program is all about.

It might sound a bit like Bars & Pipes, but in many ways it is a lot more flexible. Incoming MIDI information (you *must* have MIDI gear to make sensible use of this program) arrives at the MIDI IN box. From there it is up to you what happens next. You can filter it in numerous ways, transpose it, record it, echo it – the only limit is the number of add-on modules. It's not a replacement for a sequencing package so instead tries to complement features which may be lacking. You must either play live through it with a keyboard, or use the 'Play MID file' option, and there is no way that notes can be edited once recorded. For this reason MusicWeb is most useful if you already have a package such as OctaMED or Music-X. Some effects are very impressive and if you wanted to achieve the same using MIDI hardware it would cost you a lot of money. At the very least it can really fire your imagination.

MusicWeb is Shareware, and costs $30 to register if you find it useful. Updated in June this year, it can be found on any Aminet site.

MOD players

MOD files are the music medium of the Amiga world, and there are dozens of different players to choose from. Initially there were only a handful, all based on the mythical programs created by the legendary "Mahoney and Kactus" team (well, legendary in MOD player programming circles). However, times change.

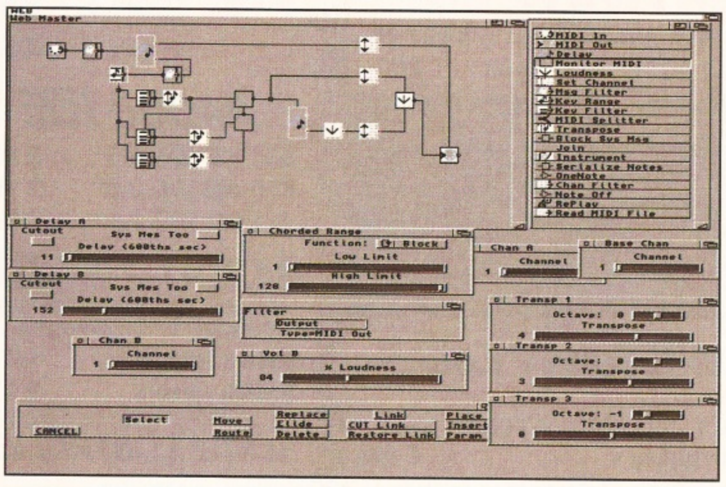
As new tracker programs came along offering new features, new playback programs were needed – multiple selections, better features, less demand on the Amiga's CPU, OS2 support and multitasking. The rise of the PC as a MOD player has also lead to some new variations on the MOD file formats. Many players also automatically play back MOD files which have been compressed with various utilities.

The more clever MOD playback utilities have a modular approach to supporting new formats. Instead of having to update the entire program, a new play module can be released instead. The latest additions and updates can always be found on Aminet. One of the best players is **DeliTracker II**, which uses this modular system to play almost anything. There is also an ARexx port, which means DeliTracker can be used with multimedia presentation programs, or easily customised to work with utilities such as Directory Opus. The user interface is clean and simple, with small buttons for controlling the playback. There is a balance and volume control as well, but by far the most interesting inclusion is that of 'Genies'. A Genie is a separate program which works with DeliTracker. For example, a Genie can act as an interface between the player software and the sound hardware. This adds great flexibility, as there are various cheats around for eight-channel sound or support of extra hardware. With suitable Genies, DeliTracker can handle anything.

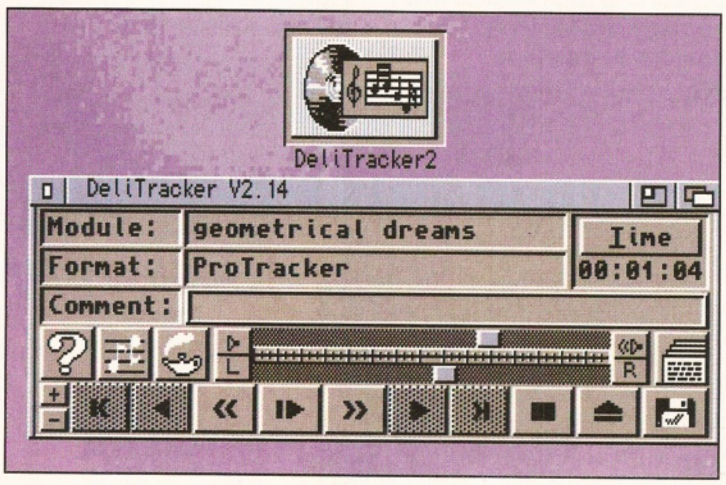
If you don't require quite so much flexibility, but still need a MOD player which can handle as many files as possible, check out **HippoPlayer**. Hippo also uses a modular approach to file handling, and has an ARexx port for easy integration with other software. Its user interface is a bit pokey, but it works well.

Finally, if you want something a little more flash, try **EdPlayer**. This program goes the whole hog and tries to look like an expensive piece of audio equipment. If you don't mind your player opening up an entire screen simply to play a tune (heck, maybe that is exactly what you want) give it a try.

There are many other players available, each slightly different. Some are shareware (like DeliTracker), others are totally public domain, but all are available from Aminet (either the Internet site or one of the regularly released CD-ROMs). To download them go to the Aminet site. Each program has its own filename. DeliTacker_II is titled `DeliTracker214.lha`, EdPlayer is called `EdPlyr21.lha` and HippoPlayer is named `hip207.lha`. All three files can be found at Aminet/mus/play/. ■



Once the MIDI information has arrived, MusicWeb enables you to filter it, transpose it, record it, or echo it.



DeliTracker II is a shareware MOD player than can play almost anything.

E & OE
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ALPINE - 275MHz
DEC Alpha Workstation

Voted "Best Workstation" by Digital News & Review. Lightwave Pro magazine recently said "and the winner is ... DEC Alpha 275Mhz", when comparing value and performance of the ShaBLAMM, the Raptor, SGI Indy and 68040.

The Alpine 275 system is a must for any professional 3D animator. With floating point performance of upto 20 times that of an Amiga 4000-040, even the most complex frames are rendered in record time.

SPECIFICATIONS: Tower case housing 275MHz DEC Alpha AXP motherboard with 128-Bit data path to both the 2Mb secondary cache and DRAM, fast SCSI-II interface with 1Gb SCSI-II hard drive, High-Speed 24-Bit (4Mb) Video card, 64Mb DRAM (expandable to 1Gb onboard), CDROM, Ethernet, Remote Diagnostic facilities and Windows NT pre-loaded. All systems are covered by a 2 year return to base warranty (on parts & labour). DEC on-site maintenance cover is also available.

Typical System Cost is £ 7,995 + VAT

Lightwave 3D Comparisons :

Amiga 4000/040, 25MHz, 18Mb	2h 10m 30s
Amiga 2000, 33MHz 040, 66Mb	1h 5m 35s
Amiga 3000, 40MHz 040, 34Mb	43m 19s
ALPINE 275MHz Alpha, 64Mb	6m 35s

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A1200 ACCELERATORS

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50MHz 68030(MMU), 0Mb, No FPU	£ 249

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The great outdoors

Gary Whiteley *takes a flight through World Construction Set, a new landscape generator and animator which produces stunning 3D images and looks set to rival VistaPro.*

It's been ages since there was a new landscape generator for the Amiga. Until now VistaPro has ruled the roost because not only is it good at what it does, it is virtually the only program which does it!

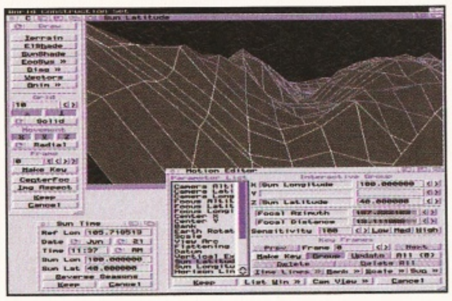
I was very curious when I saw Questar Production's World Construction Set drawing favourable comments on an Internet site. So, I got on the case, got hold of a copy, and set to work giving it the third degree. And I'm pleased to say that it stands up very well indeed.

Heavy reading

WCS has one of the fattest manuals I've seen in my Amiga career – a massive 660 pages – and, unlike some manuals I could mention, there are very few instances of poor spelling or bad grammar, which is quite something for a volume of such density! WCS also contains five disks, comprising the program itself, several sets of data files, some example images and an unregistered copy of Magic User Interface (aka MUI), which is what drives WCS's user interface. A bonus disk containing a low-resolution data set of the entire Earth will also be dispatched upon receipt of registration.

A full installation requires around 12Mb of disk space, so a hard drive is pretty much essential, both for storing data and rendered images. At least 4Mb of RAM (10-12Mb would be better!) is required and, although WCS will work on a standard old 68000 Amiga, anything less than an 030 processor will make rendering images like swimming in cold treacle.

The first thing I did was to follow the tutorials in the manual, using the example files provided with the program. If you're entirely new to this kind of application, or if you are a novice at 3D rendering and animation I must warn you that WCS has a steep, but reasonably short, learning curve, due in part to its complexity and wealth of features and also to its use of the geographical latitude and longitude system. This is adopted instead of the more usual spatial units employed by regular 3D programs, to locate camera, light source, target and objects to be viewed.



Motion module and Camera View, where animations are devised, and a whole lot more.

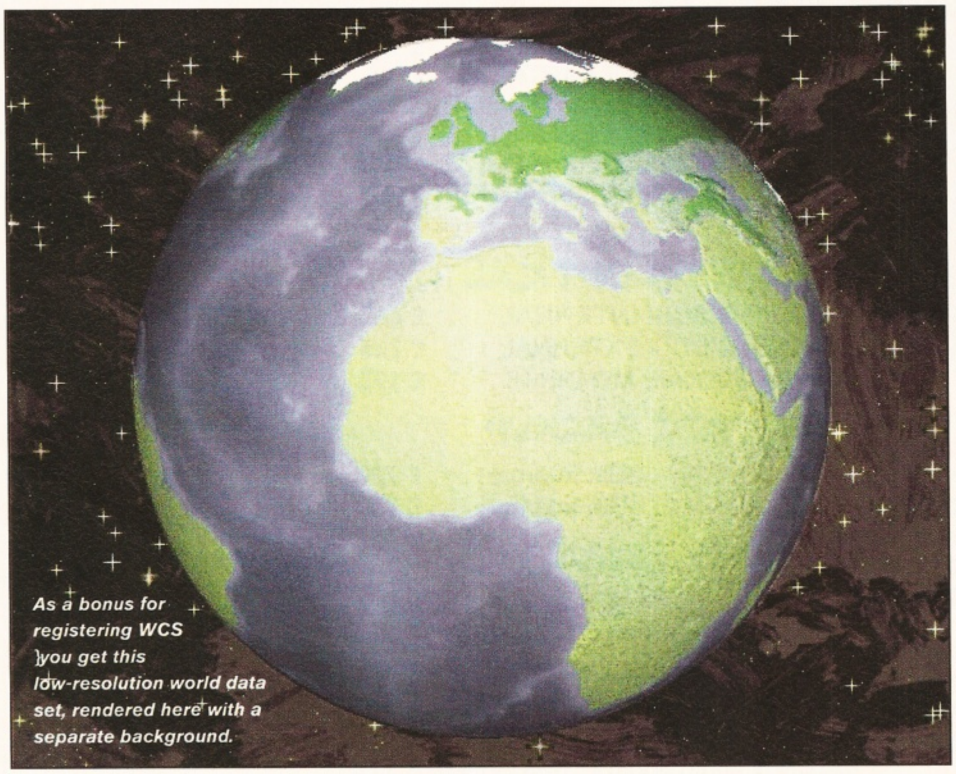
WCS isn't a regular 3D program. It produces images and animations of complex landscapes. These are generated from a number of sources, most notably from Digital Elevation Models (DEMs) derived from topography surveys carried out by geological and aerial mapping teams. So far this seems like familiar Vista territory, apart from the spatial units, but dig deeper and there's plenty more to be found.

The five modules

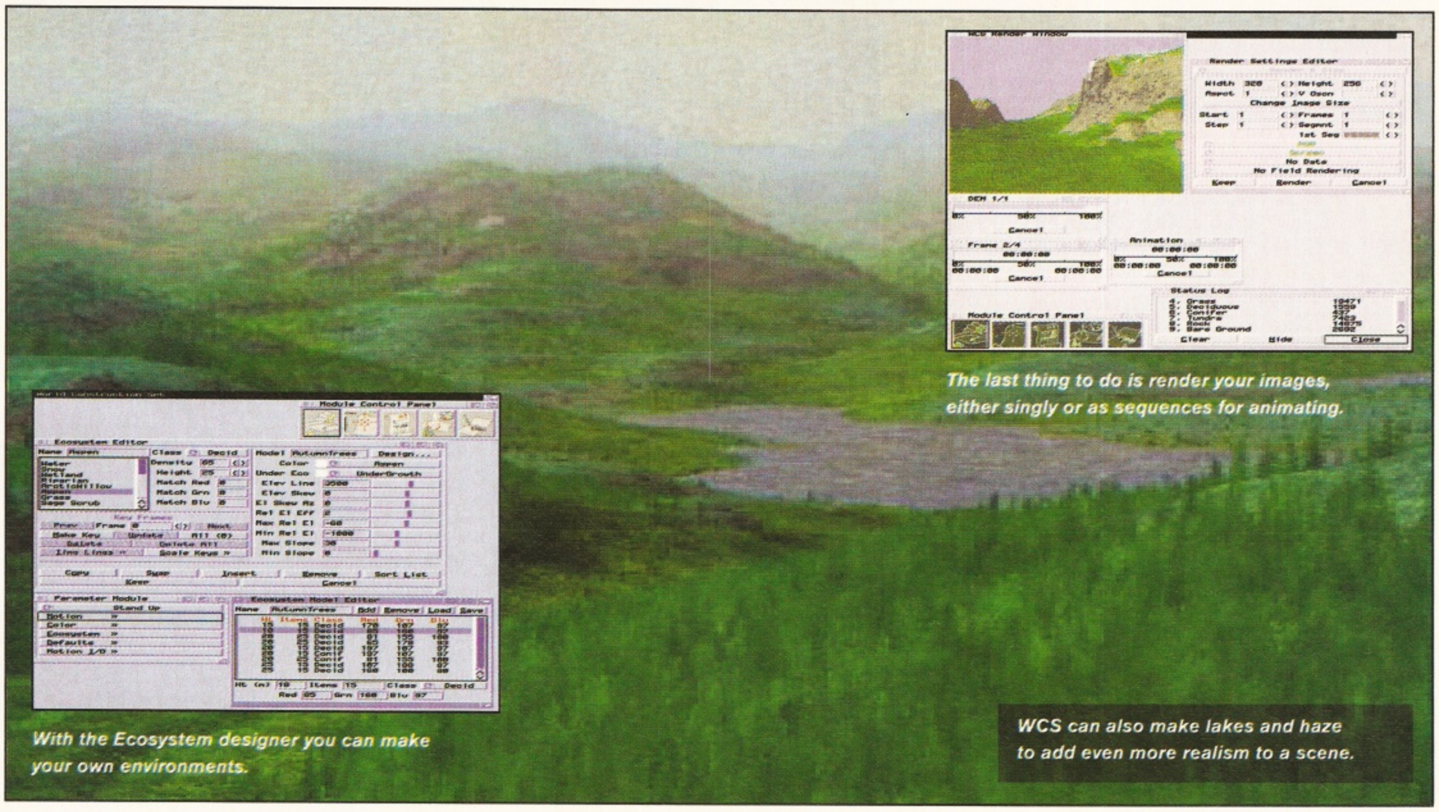
WCS is divided into five basic modules, some of which interact with each other. There's a Database module where the basic components of a project are set up. This is where, amongst other things, you decide which DEM files will be used. Then comes the Data Operations module, which is where external files can be imported and converted to WCS's own topography format. The Mapping module provides many functions, in particular giving a bird's-eye view of your chosen scenery and where camera, target and lighting (the sun) are positioned. The fourth module is concerned with Parameters and is where ecosystems, motion (including motion path import and export to/from LightWave), and colour parameters are set. The last module, Render, controls all the options for rendering images and animations.

Getting on the map

Once a project has been created and the relevant WCS DEM files have been determined in the database list, the next place to go is the



As a bonus for registering WCS you get this low-resolution world data set, rendered here with a separate background.



The last thing to do is render your images, either singly or as sequences for animating.

With the Ecosystem designer you can make your own environments.

WCS can also make lakes and haze to add even more realism to a scene.

Mapping module. At its most basic the Mapping module is for setting the camera view, sun position and the radius of haze (if any) around the camera. There is only one view available – directly overhead – but scaling functions allow it to be seen from any distance, be it close or far.

The DEM topography can be displayed in several ways, such as contours-only, a photographic look, or in various colours and styles. Each display option can be helpful, though I found myself using Embossed (the photographic aerial view appearance) and Contours almost exclusively in the end.

The map view provides a constant read-out of latitude, longitude and elevation of the terrain immediately under the mouse pointer. This is particularly useful when setting the elevations of camera and target and helps avoid embedding the camera beneath the land surface itself, which won't produce the best of images.

The Mapping module also provides for the addition of vector objects, including roads, county boundaries, rivers, power lines etc., which can then be included in the final render. Motion paths can also be added which guide the camera through an animated sequence.

Poetry in motion

The Mapping module, the Motion parameters and Camera View windows work in tandem and changing one will affect the others. Motion parameters cover all aspects of camera and target positioning, as well as haze, fog settings and much more. It's here that key frames for camera motion and animation are determined and where many aspects of an animation sequence are controlled. Not only can the camera and target move with each key frame, but the sun can also move, either by manual settings or by its position according to time and date. So, if you fancy watching how the light changes in a mountain valley during the day, just set up a few key frames and get thee to the Rendering module.

There are several ways of previewing with the camera view, but no wireframe animation preview, which is a shame, because I always found this to be handy in Vista just to ensure the camera was moving OK.

The render module

Once everything is set up the last thing to do is sit back and let your Amiga do the work. How long this takes depends on several factors, such as the number and size of the images to render, how much detail (fractal depth) is required, whether ecosystems and vector objects are to be included, the speed of the Amiga and so on. By doing without an on-screen preview, render times are considerably reduced but full PAL overscan screens can still take quite a while (i.e. hours) on a slower Amiga. As an example, a 120-frame fly-through in a window sized 160x128 pixels took almost four hours on a 40MHz 030 Amiga, so imagine how long they would take at full overscan resolution (not to mention the almost 1Mb storage each image would require) on a baby machine?

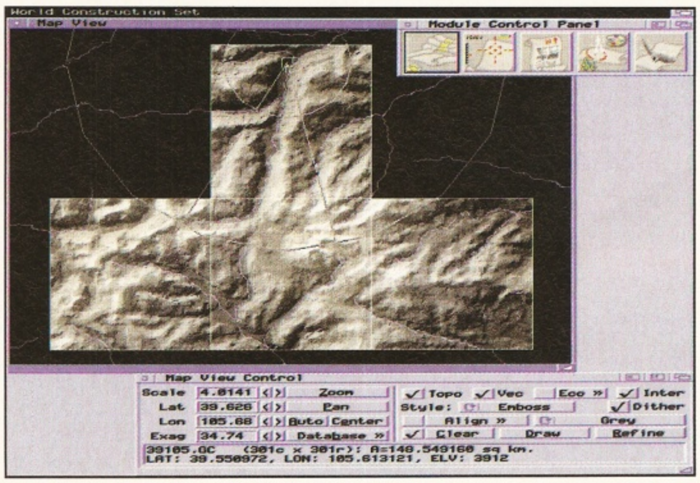
Not that I think WCS is slow – it isn't – rendering takes time because of the complexity of the landscape and the calculations involved.

It's also possible to import backgrounds or animation sequences (IFF24 or RGB files only) during rendering, so you can apply your own custom skies, planets, space etc., which will be blended smoothly behind WCS's landscapes to make even more gobsmacking images.

Rocks and trees and plants and things

Perhaps the most striking aspect of WCS is its Ecosystem department (in the Parameters

41



The Mapping module – for setting camera, target, haze and motion paths.

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A view of El Capitan, California, created from a DEM file imported from VistaPro. Note the realistic vegetation.

39 module), which is able to produce many marvellous types of natural surface coverings, from simple snow and water to complex mixed forests, wetlands, grasses, rocks and even undergrowth associated with particular ecosystems. There are plenty of pre-set environments to choose from, but if you're really keen it's easy enough to set up your own customised ecosystems. It's even possible to animate ecosystems, such as showing the seasonal vegetation changes of a landscape!

In real life an ecosystem could contain several diverse environments, depending upon factors such as altitude, temperature, the angles of the landscape, water supply, soil and so on. With WCS's Ecosystem menu your own special ecosystems can be made – give the software a range of parameters which will determine just how and where each ecosystem will appear.

A simple example would be the placing of the snow line and factors which determine what kind of slopes the snow will remain on. More complex would be the construction of a mixed woodland in Autumn which contained a variety of deciduous and coniferous trees in a range of colours and heights and which had a lower storey of grassy patches and other low-lying vegetation, or perhaps mossy rocks with stunted trees and bushes. All these things are possible with WCS, and a whole lot more besides – including strange alien landscapes with wild colours or just simple lakes, grasses and rocks. You don't need the botanical knowledge of David Bellamy to design your own ecosystems, but it helps to have a general understanding of the wonderful world of nature in order to design realistic-looking coverings for WCS's otherwise rather bare landscapes.

One other useful aspect of the Ecosystem is that it can use bitmap images as stencils to determine where particular features are placed. For instance, an overlay could be made using one colour to represent lakes. Water will then only be drawn where the lake colour is present.

Roses aren't the only flower

But WCS isn't all roses. One potential drawback is that it only generates 24-bit images and only provides a 16-colour preview whilst rendering. For users of AGA machines, or those without a 24-bit graphics card, this could be inconvenient, since these 24-bit images will have to be converted to a format viewable on the host Amiga. By following Vista's lead and adding more render formats (for example HAM8, 256-colour and HAM) the user could choose their preferred output and avoid having to convert the 24-bit images at all, as well as save precious disk space. Neither does WCS compile animations directly.

One thing I found particularly difficult was working out how to import and use non-WCS-format DEM files. This is one area in which the manual seems rather lacking and it took me several hours and a lot of time-wasting to figure it out. A step-by-step tutorial on how to convert DEMs and create a brand new project would have been very helpful, but unfortunately there isn't one – or at least not all in the same place – otherwise I wouldn't have had these problems.

Questar are obviously aware of some of the shortcomings of WCS and their 'To Do' list already includes adding clouds, reflections, waves, a fractal terrain generator (though bitmap images can currently be used to generate landscapes), even better trees, more import/export options and ARexx functionality, so they've still got plenty of work on their plate.

Despite its current shortcomings and omissions (and I should point out that space has precluded me mentioning all of WCS's many features), WCS is already one hell of a landscape and animation generator and if you can conquer its learning curve there's a whole world (or perhaps even universe) of stunning scenery just waiting to be brought to life. If you want the best-looking landscapes around, WCS is the new way to get there. ■

Gary Whiteley can be E-mailed at drgaz@cix.compulink.co.uk.

World Construction Set

A good, solid, feature-packed program which produces beautiful landscapes but still lacks several fairly crucial items. But make no mistake, WCS is a diamond in the rough and with a little more work it will certainly be cut and polished into a valuable gem.

Price:	$199 (about £125)
Supplier:	Questar Productions
Contact:	001 303 659 4028

Verdict: 85%

Where to get it

World Construction Set by Questar Productions
Price: $199 US + $25 air mail postage.

Supplier: Questar Productions, 1058 Weld Co. Rd. 23.5, Brighton, Colorado, USA. Tel: USA 001 303 659 4028. Fax: USA 001 303 659 9457.

E-mail: garhuber@burner.com
WCS can also be ordered from CyberSystems, Suite 4, 1 Norfolk Road, Cliftonville, Margate, Kent, CT9 2HU.

Real 3D version 3

The word 3D is currently synonymous with packages like LightWave and Imagine. **Gary Whiteley** *looks at a 3D program fighting hard to steal the 3D crown. But is it just a pretender to the throne?*

Although 3D talk revolves around LightWave and, to a lesser extent Imagine, there exists another significant, and very powerful, 3D program. I'm talking about Real 3D, the feature-packed modelling and animation software from Finnish innovators RealSoft.

3D experts already know that Real 3D holds several powerful features up its sleeve. RealSoft were the first to add particle systems, collision detection and Inverse Kinematics. And it's still the only program which models exclusively using CSG (Constructive Solid Geometry) and mathematical models, imparting a very high degree of smoothness to rendered objects.

In fact, Real 3D is so packed with features I can't begin to mention them all here. So, here's a brief outline to enable you to put the new features into context.

Real 3D has a *very* steep learning curve! Compared to the Alps of Imagine or LightWave, learning to use Real 3D is like climbing Everest. That said, it really depends how deeply you want to get into it, because Real works at several different levels. At its simplest it can be used just for modelling and rendering – by making objects, defining their surface properties, adding some lighting, setting up an animation (or still) and rendering away.

But even becoming competent at this level will take some time, since Real is packed with options. If you are more familiar with Imagine or LightWave, you'll probably find Real's configurability and range of tools and features rather overwhelming, too. For instance, there are many options just for setting-up Real's user interface (Environment). If you want a TriView, set one up or load a pre-set one from the Environments. If you want a front view only, with a Tool window and a list of all the items in your scene, set one up and save it. Each view window can be changed to show front, side, top or custom camera views. They can also be used for preview rendering, of which six different types exist, from wireframe through to full ray tracing. Then there are the primitive modelling forms, Boolean operators, deform tools, the materials window, etc. Have no doubt – Real is different from the competition.

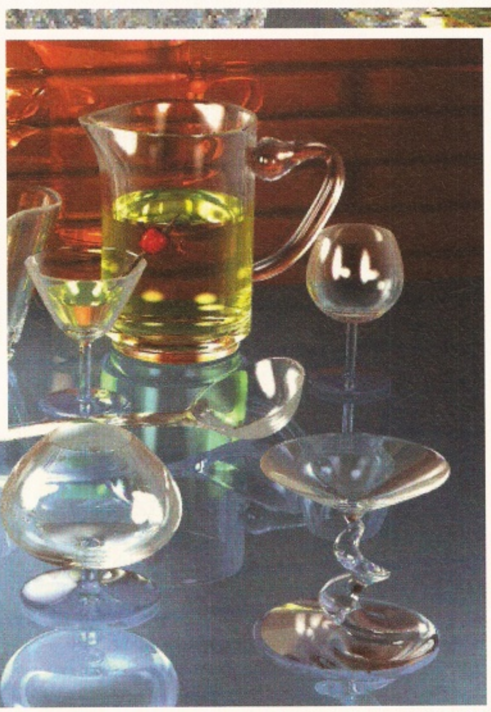
Real has a hierarchical object structure, allowing objects to contain sub-objects, sub-objects to themselves contain sub-objects, and so on. For those used to other modelling systems, this notion, although quite logical, can take some getting used to. But then, a lot of things about Real take some getting used to!

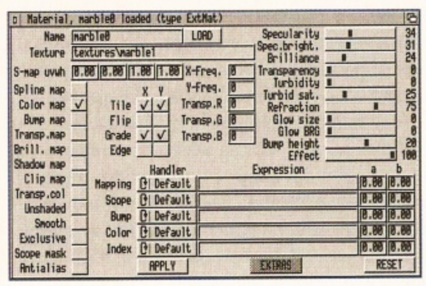
Move on up

Real's more complex modelling tools include B-Splines and meshes, and powerful features like Inverse Kinematics and the Particle Animation system, which involve many factors governing the way objects in a scene interact with each other. Individual objects can have physical attributes assigned to them – gravity, wind, etc., creating an unlimited number of combinations to emulate real-world (or totally weird) situations very well. Things can fall, collide, bounce, or whatever, all under the control of a variety of methods and attributes. The downside to this otherwise extremely powerful Particle system is that until you've mastered it the results can be a bit random.

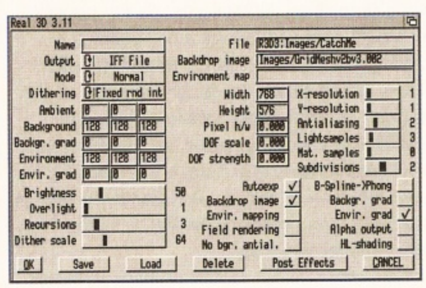


Realistic-looking renders are one of Real 3D's many strengths.

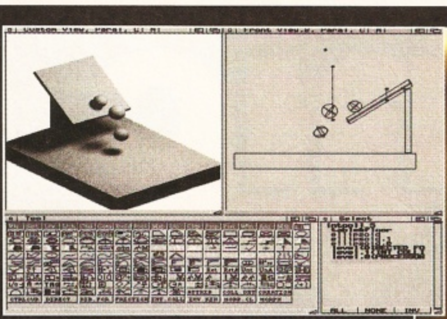




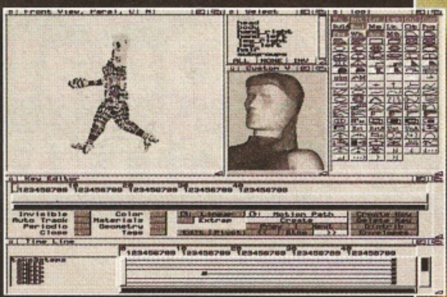
Real 3D offers a very wide choice of surface mapping options.



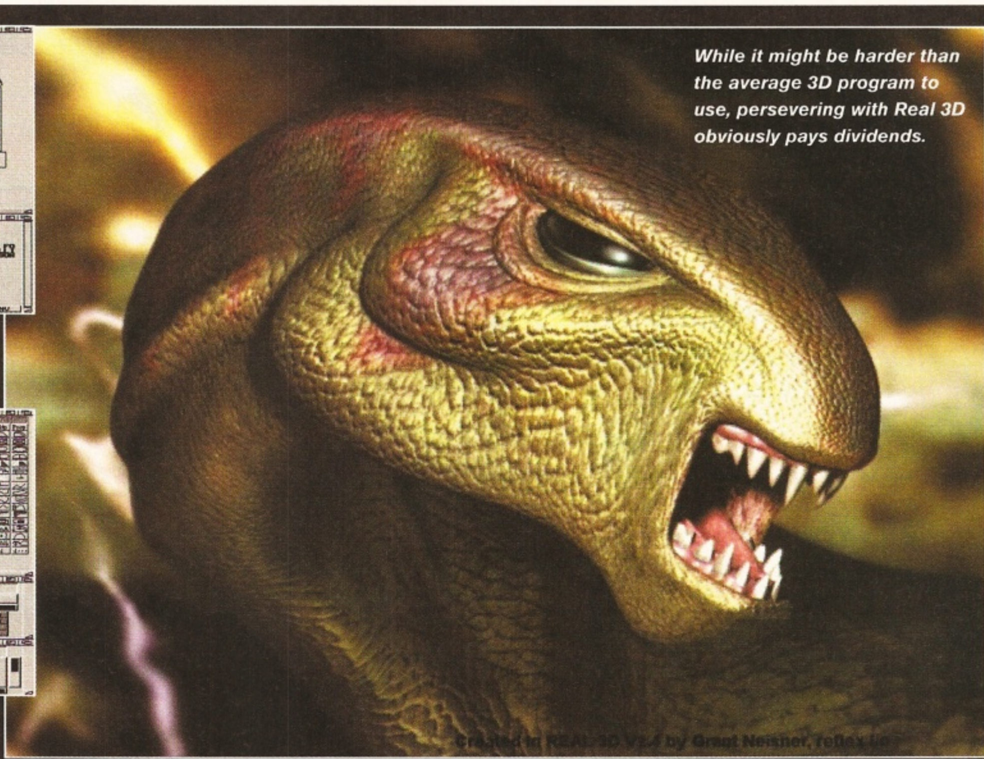
Lots of rendering options make Real 3D the most flexible 3D renderer on the Amiga.



Real 3D has a very flexible user interface and a huge range of tools to work with.



The new Key Editor and Time Line make simple key-framed animations a cinch.



While it might be harder than the average 3D program to use, persevering with Real 3D obviously pays dividends.

Rather than a bone system for manipulating and animating objects in a semi-organic way, Real 3D has both Inverse Kinematics and a skeleton system, which permit far more flexible and controllable movement than LightWave or Imagine's bones do. The beauty of Inverse Kinematics is that it works from the outside in. For instance, a suitably modelled arm and hand can be fully controlled by simply defining a movement for a finger – the whole arm will follow in a natural manner.

If you fancy a severe challenge to your intellect then there's Real's built-in, FORTH-like programming language RPL (Real 3D Programming Language) providing total control over all the features. As a severely limited programmer myself, I think I would only use RPL very rarely, if at all. But if all else fails Real 3D's powerful macro recorder can help in the creation of RPL files, so all may not be lost.

Another complex area is the creation of procedural textures, again the principal domain of mathematicians and programmers. Fortunately, there are a number of pre-programmed examples to start you off, but once more this is an area which is beyond me.

In with the new

First off, the manual has been re-vamped, and is far better than it used to be. There's also a clear supplement detailing the new features. All the tutorials described in the manuals are now included on disk, in case you have problems following the instructions in the book.

One drawback is that the manual is for the PC version of Real and, as a consequence, has illustrations to match. In truth there aren't that many differences between the Amiga and PC versions, but it can be alarming looking at a Windows image and trying to equate it with your Amiga screen. Also, some of Real's PC features (such as Materials Preview) haven't made it into the Amiga version, though the manual doesn't explicitly tell you so, except in a section at the back of the supplement manual.

A new Key Framer has been added to Real's current animation system, which will appeal to LightWave and Imagine users, since it makes producing simple animated moves rather more visual and straightforward.



A handy new tool, View Control, now makes positioning elements in a scene much easier, giving direct control over all aspects of a View window. Simply by clicking on buttons the view aspect can be changed, zoomed in or out, be preview rendered, and more. It's still not as easy as LightWave's Layout system, but it's a step in the right direction.

A series of new 'Post Effects' have also been added, including Glow, Lens Flare, Distance Blur and Depth Output. These are library-based effects, so they can be expanded as new libraries become available. While the Glow effects are certainly rather nice, the Lens Flares are pretty dismal, and certainly not a patch on LightWave's, though proposed additions to the Post Effects may remedy this.

Animation methods

One of the new animation methods is Drag, allowing the user to set impact points for an object to follow. It then 'walks' across a surface following these points. Imagine how hard it would be to animate an egg rolling end over end across a floor with key frames. With Drag it is simple. Another new method is Shrink Wrapping, which causes a surface to be deformed by a moving object – for instance footsteps being left in the snow.

The Skeleton method has also been improved and now supports hierarchical skeletons and constraints, giving the user far more control over how objects move and deform under the skeletal system. Also, a new Fidelity control has been added, ensuring that a flexed object always remains as true to its original shape as possible, rather than being stretched or flattened as it is bent.

For users short on memory, a new AutoBox feature has been included, which segments large images into smaller chunks and re-assembles them upon completion – very handy if you do high-resolution print work.

So, what's the verdict?

To wind up, Real 3D is, without doubt, a very powerful 3D program. But it lacks the direct simplicity of LightWave's Layout and Modelling windows. In fairness, Real 3D is great at picking up where LightWave or Imagine currently stop. But don't forget the wicked learning curve.

One last important point – Real 3D has *real* UK technical support, so if you're ever stuck with a tricky problem, a quick phone call can often get it sorted out.

To run Real 3D you need a hard drive with at least 8Mb free and plenty of RAM (10Mb plus, if possible). An accelerator (preferably at least 030) and graphics card are recommended, though not obligatory. ■

Real 3D version 3

Price:	£395
Supplier:	Activa Internationl Ltd.
Contact:	0181 402 5770

Verdict: 89%

Panasonic Dual drive



Re-recordable CDs are still not a possibility, so how about a device that combines a CD-ROM drive with the ability to write to 650Mb cartridges? **David Taylor** *tests the new Dual drive from Panasonic.*

Ever since CD technology took off, users have wanted to be able to write to a disk of this size. Although recordable CDs exist, they are WORM (Write Once Read Many) and very expensive. This new drive combines both a quadruple-speed CD-ROM drive and a re-writable optical disk with a 540Mb capacity.

The Panasonic Dual is yet another SCSI device, which can be connected internally or fitted to an external casing. It can easily be ported to other platforms, so you can use the drive with any computer that accepts SCSI, like the PC or Mac. To connect just plug it in!



The Panasonic Dual drive can read CDs...



...or read and write to optical disks.

Plug in and go

However, getting the Preferences set up is a different story. The drive has only one tray – the CDs fit into it one way while the re-writable disks take up the whole caddy. This dual nature makes the caddy slightly flimsy-looking. In effect you have two devices on the same SCSI ID number, so how do you tell your Amiga this?

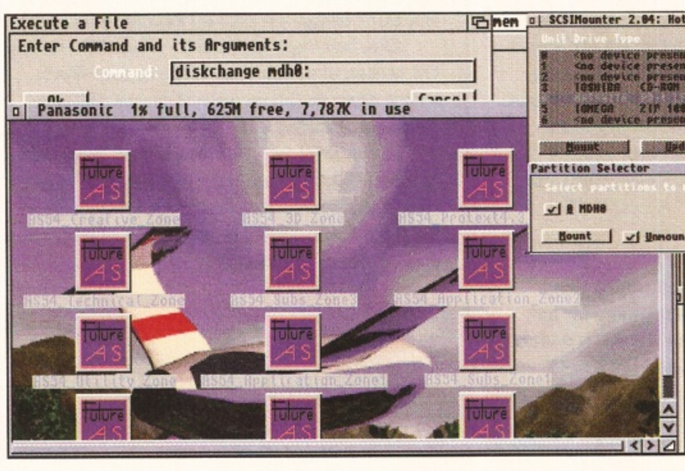
Setting the re-writable is easy enough. Simply start a program like SCSI Mounter and mount the disk. If you ever change the disk, you need to inform the Amiga, using the diskchange command. This is easy enough to set up as a menu item which executes the command, "diskchange mdh0:".

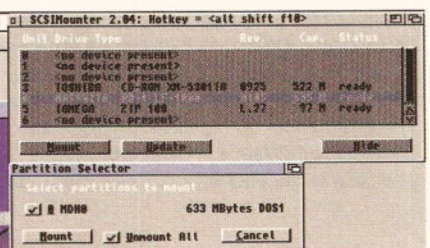
The CD is different, and is set to lun 1 on the SCSI ID. To use it, you need to play around a little. First, make sure the CD.device is in your devs: drawer. The mountlist for CD0:, needs to have the SCSI ID number set to 0 and the device set to CD.device. The CD.device has a configuration file, which states the actual device to be used, and a line that states the SCSI ID number. You must insert the number 1 in front of the ID number so that it knows to look at lun 1. Although it sounds complicated, it's easy to do once you know what you're trying to achieve.

Once the drive is set up correctly, there's nothing more to worry about. Using it is easy. The CD drive, like the other quad-speed we've reviewed this issue (page 45), works fine, but has little more to commend it. The optical disk is a reasonably fast drive with the professional as its audience – you need to be heavily into video or some other area requiring mass removable storage. It is not as fast as a hard drive, but gets close, with Diskspeed rating it far faster than my hard drive for directory scans (250 per second), with an average of 22 seek/reads per second.

This device is not, apparently, just another magneto-optical disk tacked in with a CD drive. Panasonic explain it thus: "The micro optical head consists of a laser module and movable unit. The laser module, consisting of a laser and photo detectors, is able to write and read phase change optical disks and to read CD-ROMs by emitting a laser beam and measuring reflected light. A polarised hologram in the movable unit improves the efficiency of light utilisation. Use of the Correct Farfield Tracking (CFT) Error Signal Detection Method has expanded the servo dynamic range and enabled the stabilisation of the drive while in motion." Lordy!

This drive is very good, but pretty costly. Even so, considering the 'two drives in one' that you get, and the cost per megabyte, it is a cheap way of storing data, but only if you are thinking of storing gigabyte after gigabyte. If the price comes down, it might make this drive of more interest to the general user, but the current cost, which Panasonic admit they need to work on, defines this as a product for the high-end niche market. That said, once bought, with 650Mb disks costing around £50, the price per Mb is well under 10 pence! ■





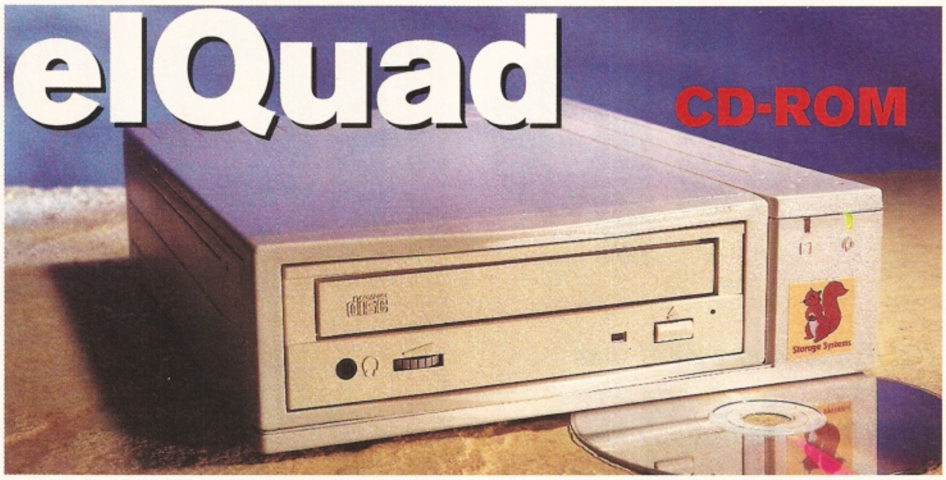
The optical disk comes up on Workbench (left) after you mount it with SCSI Mounter (above). You must execute the diskchange command if you put a new disk in.

Panasonic Dual drive

Price:	£600 (£50 per 650Mb disk)
Supplier:	Hi-Q
Contact:	01525 211327

Verdict: 80%

SquirrelQuad CD-ROM



Are dual-speed CD-ROM drives already old news? Could new, faster CD-ROM drives already be superseding recognised multimedia technology? **David Taylor** *isn't so sure.*

Faster. That's always been the philosophy of computer development. As soon as a technology appears, see how much quicker you can make it. Normally this is great. CD-ROMs, though, are a different kettle of fish.

Although faster drives are arriving – the SquirrelQuad being one – you must examine what use you could make of them. Standards like MPEG are set for dual-speed drives, so although you can use a quad-speed, you won't get better results. In its favour, a quad-speed drive gives you improved performance when retrieving data directly from disc, such as playing animations from disc in a movie fashion. However, the quad-speed CD-ROM drive is out-performed by a hard disk every time.

I can't say that I found any practical difference using the quad-speed from a normal dual-speed. Even copying bits of data off discs seemed identical, because of the time it took the OS to initiate the copy.

There is, of course, the possibility that standards will change, and that quad-speeds will become the expected norm so that more use can be taken of their faster access time. This seems unlikely though, because the large companies, like 3M, are developing new technologies that can out-perform CD drives in every aspect.

In the end, there are no complaints to be made about this drive. It performs fine and it's easy to attach with any SCSI connector. It has a through SCSI port, a headphones socket with volume control and a stereo output. However, there's not much use for quad-speed drives, unless you find accessing files is too slow on a dual-speed, which I doubt. Although you can copy larger files quicker and opening discs is faster, you'd do better buying a cheaper dual-speed and using the extra cash to put towards something else (like the Zip 100 drive, which complements CD drives well – see page 46). The difference in price is too great to warrant if you have to add on the amount for an external drive casing. ■

SquirrelQuad CD-ROM

Price: £199 internal, £259 external
Supplier: Hi-Soft
Contact: 01525 718181
Verdict: 75%

AIWA SC-C55 Speakers



With multimedia making its presence more and more evident, sound is playing an increasingly important role in the lives of computers. **David Taylor** *reviews a set of speakers that could be ideal for you.*

Once you've got a CD drive attached to your Amiga, you tend to find that putting the sound through your monitor is no longer adequate, especially if you use your drive to play audio CDs when it's not in computer service. The solution is to get a set of speakers, but be careful to buy ones that are designed for computer use – they are magnetically shielded so that they don't destroy data stored on disks.

These speakers are the first I've seen that have been well thought out. Most speakers just have one input, which means either you plug your CD drive into them and accept that your Amiga's audio output has to continue going through the monitor, or you end up constantly swapping leads over. The SC-C55s have two inputs, which means that you can have both the CD drive and the Amiga playing through the same speakers. There is a minor annoyance in that the input leads are single stereo jacks, which means that the first one goes into the headphones socket on the front of the CD drive, instead of taking the dual output from the back, but this makes no difference to the sound. It does, however, mean that it looks a little untidy and you might end up pulling the lead out by mistake. You also need a conversion lead that takes the dual output of the Amiga into a single audio jack, but these should be easy enough to get hold of.

The speakers come with an external power supply, a volume control and surround button, which is for 'Dynamic Super Loudness bass enhancement' (in other words, it makes the music sound different). As for the speakers' power, it's 30-watt total peak output with five watts per channel in stereo.

The sound output is excellent, and I can't imagine ever needing speakers to be any louder. Having the ability to swap between the audio inputs at the flick of a button is ideal. An excellent set of speakers and I'm sure that you could pick them up for cheaper than the RRP, making them a good buy. You can also try to win a pair in this month's competition on page 96. ■

AIWA SC-C55

Price: £49.99
Supplier: Aiwa (UK)
Contact: 0181 897 7000
Verdict: 85%

Zip 100 drive



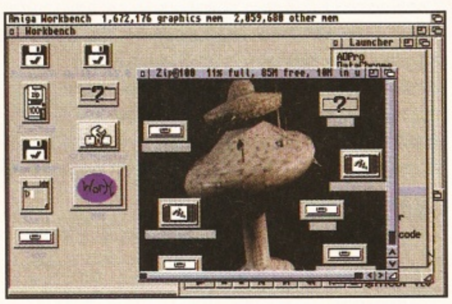
It's like having a hard disk inserted into a floppy drive. How it works nobody knows. **David Taylor** *investigates.*

The latest development in the race for the next generation of storage media is the Zip drive from Iomega. Following the current trend of offering more for your money, it gives you a removable hard drive with 100Mb capacity. But how it exactly works is shrouded in mystery.

Some magazines have claimed that the Zip drive uses Bernoulli technology, employing a method whereby the read/write head is prevented from physically touching the medium. This is not correct. Iomega emphatically deny that the drive is a Bernoulli device, and they should know. The only information that can be gleaned is that the Zip drive is a magnetic medium, suggesting it resembles a traditional disk in some way.

The drive is a SCSI device that has a 25-pin connector, so you need a convertor, which Hi-Soft supply with the drive. Looking rather like fat floppy disks, the removable cartridges that come with the drive are sturdy, and can stand a 1,000G shock (equivalent to an eight foot drop) without damage to any data (according to Iomega – we were too scared to test the theory). If you take a peek within the cartridge itself, the circular disk inside looks like any magnetic disk you'd find inside a floppy. The difference seems to be that the access is from the edge. Where a floppy's disk shield (the metal piece at the bottom of the casing) retracts to allow access from the side, the Zip's pulls back to allow access from the edge. Still, as odd as it seems, the drive works fine and the disks have an estimated shelf life of 10 years.





Once mounted, the Zip drive appears on the WB screen and can be used like any other device.

How to fit it

To fit the drive you need a SCSI connector, such as the Squirrel. The drive can only have a SCSI ID of five or six and there is a switch at the back to swap between the two ID numbers. Although there is a through port to connect further SCSI devices, there is also an automatic termination switch so you can terminate the chain.

To mount the drive, you need a mountlist, and to save you the trouble, one is supplied with the drive, so it's just a case of putting the ZIP0 icon into your devs:dosdrivers drawer. The drive will then be mounted each time you boot. Note that you can't boot the Zip drive, of course.

Unlike floppies, there is no protection tab on the disk, so there are some software tools supplied which allow you to protect the entire drive so that no data can be written to it or deleted. Although still in development, they do work. Place the Tools program in your WBStartup drawer and a set of commands will be added to the Tools menu on your Workbench. You can also eject the disk, to save you the trouble of pressing the eject button!

The drive itself is a smart blue box about the size of a portable CD player. As with any portable SCSI device, the added advantage is that you can connect it to other platforms, so there's nothing to stop you from taking data between an Amiga and a PC (so long as you adapt a mountlist and have an adequate version of Cross-DOS). At the very least, you can use the drive with both platforms and just have a disk for each.

The speed of the drive is pretty close to a hard drive, although not quite. SysInfo rates it at 947,508 bytes per second and Diskspeed tests rated it very favourably against a normal hard drive, even beating it in the seek/read tests. In practical use, you could just about believe you were using a hard drive.

At the moment only external drives are being produced, but rumours indicate an internal drive is planned for the end of the year. Even if this doesn't appear, you'd be glad to have this drive sitting on your desk. There are only two minor problems, one of which is the 25-pin connector I mentioned earlier, but since adapters are supplied, it's not worth moaning about. The other is a really basic omission. Although there is an eject button to remove the cartridges, there isn't an on/off switch! You simply unplug it. Weird.

These niggles aside, the Zip drive offers fast, portable and cheap storage, with cartridges costing around £16 each for 100Mb capacity (10 cartridges for about £130). The price of the drive is not yet certain, but should be close to the £170 mark. We tested one of the few drives that are in the country at the moment, but larger quantities should be arriving as you read this. Well, I must go – I've got to try and convince the editor to buy me one of these drives by whining pathetically. (If you really want to make progress try buying me a drink – Ed.)

Zip 100

Price: £170 (inc. 100Mb disk)
Supplier: Hi-Soft
Contact: 01525 718181

Verdict: 93% Star buy

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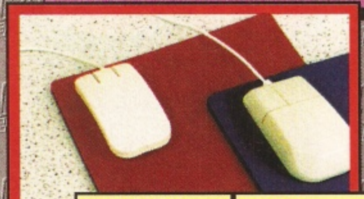


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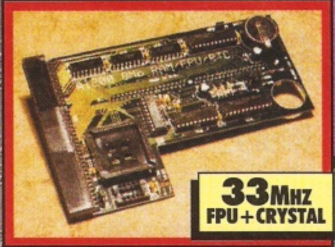
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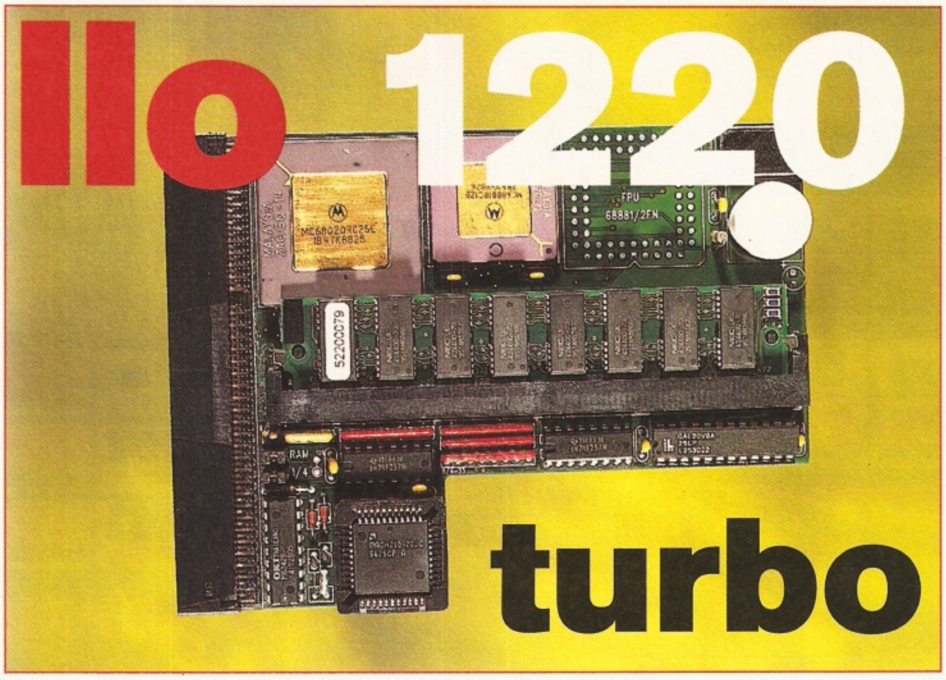
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Apollo 1220 turbo



Do you want your A1200 to outperform an A4000/030 for as little as £99? **David Taylor** *slots in a board that makes it possible.*

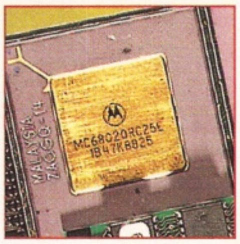
How can you accelerate your Amiga to outperform an A3000 or A4000/030 by using an 020 accelerator board? I admit it all sounds a bit wacky and I was as sceptical as you when I first got the Apollo 1220. It doesn't exactly sound like the most exciting product to review, a board with a different 020 processor, but it turned out that I was in for a very pleasant surprise.

However fast your Amiga is, you always stretch it to the limits and decide you need more speed. The immediate assumption for A1200 users is that the answer is an accelerator with an 030 processor. The trouble is that although these boards have come down in price, they're still going to set you back a couple of hundred quid for a bare board. There is, however, a different path to examine, one cheaper and possibly better.

The Apollo 1220 has a 68020 CPU running at 28 MHz, which is twice the clock-speed of a standard A1200. It also comes with either a 68881 or 68882 FPU. To round off the tech specs, there's also a socket for 72-Pin (PS/2) SIMMs for 1Mb or 4Mb RAM and a battery backed-up clock. There are two jumpers to turn off 32-bit RAM or reduce the RAM size to 1Mb.

On the face of it, the Apollo 1220 doesn't seem like a very meaty board, but with 4Mb of RAM (and I wouldn't recommend buying a board without RAM, unless you want to use compatible RAM from an expansion board you've already got), the difference it makes to the machine is quite incredible.

Fitting the board is simplicity, so simple in fact that the documentation comes on half a sheet of A4. It's just a case of opening the trapdoor under the A1200 and slotting the board in. As usual, it's a tight fit and you'll not want to take it in and out very often. The only worrying aspect to this board becomes apparent during fitting. The board looks a little flimsy anyway, which is aggravated by the fact that it doesn't fit into the casing perfectly, always sticking out a bit. This means that the trapdoor has to be forced on and bulges slightly, which made me worried that it would put some strain on the connectors. However, this board has been in and out of several A1200s and has been knocked about a bit for photo shoots and still has not had any problems.



With the board fitted, it's just a case of business as usual. To start with I was unsure whether the speed increase was down to the RAM and FPU, so I compared it with another board that didn't have a faster processor and discovered that the 020 does make a significant difference. In fact, it outperforms some 030 processors and accelerator boards, which means you should definitely consider this before immediately diving for a low-end 030 board.

Speed tests are fine, but the real interest lies in how it performs in day to day use. It's surprising how easy it is to become accustomed to extra speed. I compiled the Coverdisks whilst using this board and thought that it took a little too long to archive programs, until I swapped back to the slower board to do the same – I ended up going off to make a cup of coffee! Everything is accelerated, from Workbench update to Directory Opus to graphics packages loading JPEGs.

I had only one problem with the Apollo, which was when running the ShapeShifter Mac emulator, which had a problem with the RAM. This is a problem that is known to occur with several types of boards and a patch exists to rectify this, so you can't blame the board.

The original A1200 processor is no slouch, but it's amazing how soon you get used to the extra speed, because you'll soon find you couldn't possibly do without the board. It is ideal for general users who want more speed. Even though it outperforms low-end 030 boards, it can't compare to the top-end, more powerful, and more expensive, 030 accelerators. If you are wanting to speed up very intense applications like 3D programs, this board will make you notice the difference, but you would be better advised to save up for the more powerful accelerators.

If you already have a memory expansion board that uses compatible SIMMs, then £99 will seriously upgrade your computer. If you want to buy the whole set then it will cost another £129, but you might be able to shop around for cheaper memory, although do make sure it will work with the board. At the price, it makes a very cheap, but very impressive accelerator.

Speed comparisons for Apollo 1220 turbo

This graph shows the Apollo board tested against other Amiga machines and a comparative RAM expansion board without the 28MHz 68020 processor.

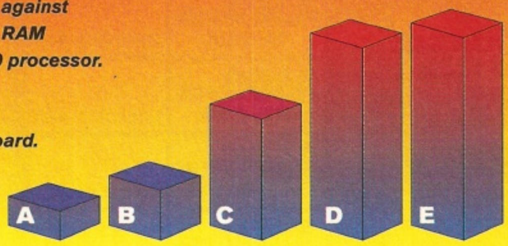
A: A600 (68000).

B: A1200 (14MHz 68020).

C: A1200 with 68881 FPU and 4Mb RAM board.

D: A3000 (68030).

E: A1200 with 28MHz 68020, 68881 FPU and 4Mb RAM Apollo 1220 turbo board.



Apollo 1220 Turbo

Price: £99 (4Mb RAM £129)
Supplier: Siren Software
Contact: 0161 796 5279

Verdict: 90% **Star buy**

CD check out

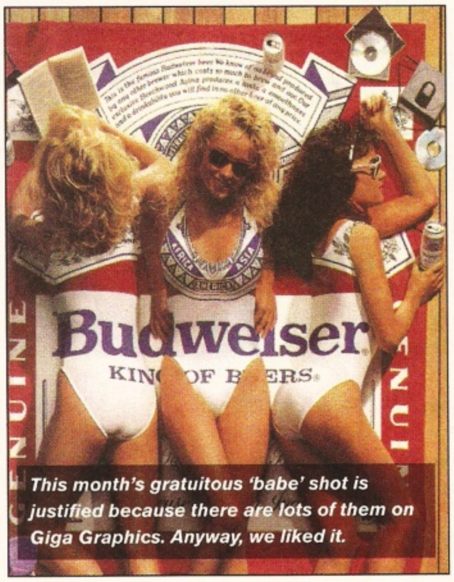
This month our resident CD maestro **David Taylor** *takes a close look at just two CDs. But what a pair! One has no fewer than 10,000 images, while the other is packed with a whole host of stuff.*

As I write these words the office is melting around me. Despite multiple fans and all windows open, I reckon I have only a little breathable air left, so I'll get this written for you before I expire. Live long and prosper, 'cos if this heat persists, I won't. By which, of course, I mean welcome to this month's collection of CD-ROMs.

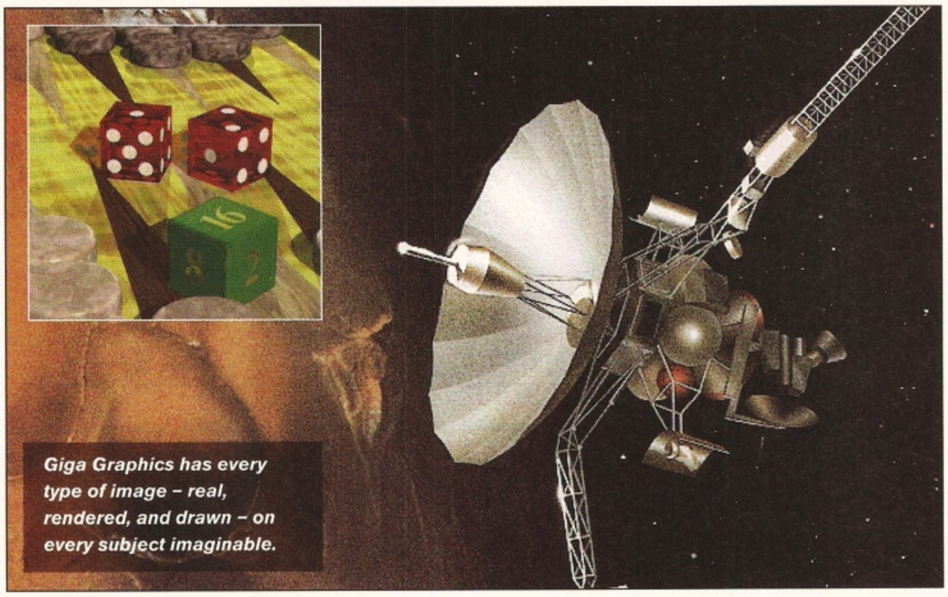
Giga Graphics

This CD collection boasts the largest graphic collection for the Amiga, and I can well believe it. Unlike many CDs which are aimed at a multi-format audience, this collection is intended solely for Amiga users. All of the 10,000 plus images are stored in IFF format. Yes, that's right, there are over 10,000 images making up the 2Gb that comprises this four CD set. Phew!

The images are divided into directories according to the name of the pictures, with each letter split over three or four drawers, i.e. A002. That should give you an idea of the number of pictures we're talking about. Each disk has an overview section, with thumbnails of the pictures as an index. These index pictures are supplied in 16-colour as well as HAM8, so you can view them immediately on any Amiga.



This month's gratuitous 'babe' shot is justified because there are lots of them on Giga Graphics. Anyway, we liked it.



Giga Graphics has every type of image – real, rendered, and drawn – on every subject imaginable.

The image palette ranges from 256 colours to 256,000, so most of the pictures are of a very high quality. As for subject matter, that ranges from photographs of everything, with an extensive, but innocuous, 'babe' section, to rendered images, fantasy art, and textures for users of 3D packages.

Quite simply this is the most extensive picture library we've ever seen. Sure, some of the pictures are useless. OK, some are taken from BBS adverts and so have text on them, but the majority are excellent. If you can't find the image you want here, you'll not find it anywhere.

Giga Graphics

Price:	$39.99 (approx. £25)
Supplier:	PDSoft
Contact:	01702 466933
Verdict: 90%	Star buy

AMUC 2 & 3

On first examination, both these CDs are a little badly organised. Although there are full lists of contents, in both short and verbose formats, there is little order to the chaos. Things do become easier if you have MUI installed, because there is a MUI finder. If not, don't worry, I found it easy enough to forget lists and just flick through the directories in DOpus. Everything is ordered neatly and logically on both disks, and in the same way.

The data directory is subdivided into appropriate directories, with areas for 3D (which are then separated into individual 3D program sections), music modules, clipart, fonts, text (containing reviews of products and also files on subjects as disparate as fitting hardware and Curt Kobain's suicide), and pictures. The software directory is similarly divided, so that you can find any utilities, applications or whatever it is you want. All the software is PD or Shareware, and is overflowing with choice.

These two CDs, especially at the price, are great. The only downside is that because they follow a generic format, you may end up looking in a directory only to find it empty. For example, if there were no music modules beginning with 'a', the 'a' directory of mods would hold nothing. It doesn't detract from your use of the CDs, but they could have been tidied up. Don't let this put you off from investing in these CDs, though. ■

AMUC 2 & 3

Price:	£19.99
Supplier:	PDSoft
Contact:	01702 466933
Verdict: 95%	Star buy

Reader ads

Turn your excess equipment into cash, or find a true bargain. Sell, buy, swap, exchange... no matter what your intentions are, these are the only pages that reach the truly devoted Amiga users.

FOR SALE

● **A500+**, 2Mb, ENP hard drive with 4Mb Fast RAM, mouse, joystick, modem. All boxed with manuals. Will split. Loads of s/w and disk box, £350. Must collect. Phone Mark on ☎ 01606 863217.

● **VORTEX** At Once emulator for A500/500+, boxed £35. Power Computing PC880B anti-virus external disk drive GVGC £25. Phone Julian ☎ 01422 346237.

● **A1200HD,** (240Mb) 50Mhz, +4Mb/Fast CM8833-II, BJ200, Roclite external, joystick, 400dpi mouse, books, tons of software, magazines, Coverdisks, Subsdisks, etc, £1,700 o.n.o for quick sale. Phone Oliver ☎ 0121 3547843.

● **Genlocks** GVP £180, Rocgen Plus £75, Video tutorials: multimedia, DTV MusicX, £8 each. Phone ☎ 01892 530981.

● **CD³²** + Spectacular Voyage pack + SK1 expansion module, extra CDs + network CD £290. Also wanted: One Stop Music Shop and/or Toccata board. Phone Paul on ☎ 0570 493440.

● **Amiga** 3000, 10Mb RAM, 185Mb HD, WB1.3/2,05, 2 88DKb & 1 1.76Mb floppy drives, under warranty until 06/96. Various software £900. ☎ 01793 825751 (eves).

● **GoldenGate** 3865X, 25MHz emulator for Amigas 2/3/4000, 8Mb RAM, Maths Co-pro, 340Mb HD, 1Mb SVGA card, 12" monitor, MS-DOS V6.22 plus Windows V3.1 £550. ☎ 01793 825751 (eves).

● **GVP** HC8+ series 2, SCSI hard disk controller and RAM card for Amiga 2/3/4000 £85. Trilogic sound sampler plus cables, software. All Amigas £30. ☎ 01793 825751 (eves).

● **Amiga 1200**, new condition £250, includes p+p. Colour monitor stereo £100, Easy AMOS, Steel Sky, Indiana Jones, plus more. All boxed £8 each. External drive £30. ☎ 01322 664136.

● **Syncro** Express V3 copier. Can back-up anything, £15 + post. Also Amiga contacts wanted. Write to: Adrian, 1 Llanfair Hall, Caernarfon, Gwynedd, LL55 1TT.

● **A4000,** 68040 processor card for sale. Full MMU and FPU £350 o.n.o. Buyer collects. Phone Ray on ☎ 01978 263325, evenings only.

● **A1200/030** MMU, 28Mhz, 6Mb, 40Mhz, FPU, 340Mb HD. Extra floppy drive, Imagine 3.2, Wordworth 3.1SE plus lots of other software and games, £750 o.n.o. Call ☎ 0117 9352147.

● **Apple Mac** Image Writer II printer, quick sale, £80. No software. Phone ☎ 0141 8491506.

● **A4000/030,** 6Mb RAM 120HD, 68882 Maths Co-pro, Toshiba CD4104 SCSSII controller. Loads of software including CDs £950. 1840 monitor £120. 1942 monitor £225. HP PaintJet colour printer £110. All boxed. ☎ 01332 384883.

● **Amiga 1200,** 2Mb, external drive, trackball, two mice, Phillips monitor, software including games, business, books and mags, £425. Phone ☎ 0121 357 8003.

● **A500**, WB2.04/1.3, A590 20Mb HD, 3Mb RAM, stereo monitor, second disk drive, IBM emulator, MS-DOS 4, games, books, utility programs, £250. ☎ 01453 791318.

● **Rombo** V101 24RT plus power supply, £100. AMOS Pro and Easy AMOS £70. All in excellent condition. Phone Peter ☎ 0141 849 1506 anytime.

● **Commodore** 10845 monitor, boxed, with leads £100 including postage. Phone after 5pm on ☎ 01349 882909.

● **A1200** 170Mb HD and external disk drive, AMOS, Final Writer, plus games including Dune 2 and Arcade Pool, all for £375, excellent condition. Phone Terry on ☎ 01635 872063.

● **100 hard disks** £30. Phone Matthew on ☎ 0181 524 4326 evenings or ☎ 0973 301882 mobile.

● **Amiga CD³²** spectacular voyage pack, boxed, as new, C/W software, cables, control pad, manuals, dust cover, bargain £100. A1200 CD kit forces sale. Phone Jonathan on Leeds ☎ 0113 238 1046.

● **Alfascan 800** new and boxed – suit any Amiga £50. Phone ☎ 01784 251029 Ashford MX.

● **Accelerator** for A1200 Microbotics MBX1230 with 50mhz 68030 (inc MMU) and 50Mhz 68882 FPU, £200 ono. Phone Simon on ☎ 01438 356611 evenings.

● **Amiga 1500** with Philips 8833-II colour monitor, Panasonic printer, mouse, joystick, accessories, plus many games and serious software, £325 ono. Phone Dave on ☎ 0161 338 2246.

● **CD³²** Spectacular Voyage pack complete and almost unused, boxed as new, £150. Contact Bob on ☎ 01642 827171.

● **Amiga 1500,** 68030 with 68882 co-pro, 13Mb memory, flicker fixer and 1960 multi sync monitor, 80Mb hard disk, lots of books and some software £750. Contact Paul after 6pm on ☎ 0161 494 5516.

● **SIMM:** 8Mb, 32-bit, £165 incl. postage. Contact ☎ 01635 866669 after 7pm.

● **50 5.25** inch hard disks £9.00 excluding P&P. Contact Matthew on ☎ 0181 524 4326 or ☎ 0973 301882 mobile.

● **50 3.5** inch DD disks £12.50 excluding P&P. Contact Matthew on ☎ 0181 524 4326 or ☎ 0973 301882 mobile.

● **50 3.5** inch hard disks £15.00 excluding P&P. Contact Matthew on ☎ 0181 524 4326 or ☎ 0973 301882 mobile.

● **100 3.5** inch DD disks £20.00 including P&P. Contact Matthew on ☎ 0181 524 4326 or ☎ 0973 301882 mobile.

● **100 5.25** inch DD disks £14.00 without disk sleeves including P&P. Contact Matthew on ☎ 0181 524 4326 or ☎ 0973 301882 mobile.

● **50 5.25** inch DD disks, £7.00 without disk sleeves excluding P&P. Contact Matthew on ☎ 0181 524 4326 or ☎ 0973 301882 mobile.

● **A4000/030** 2 + 4Mb 80Mb HD, Phillips 8833 II monitor, Imagine 3.0, VistaPro 3.0, Stereomaster sampler plus four HD installable games. Worth £1,500 new, sell for £1,100 o.n.o. Call Marc on ☎ 0191 416 4120 in evenings/weekends.

● **A4000/030** 2 + 8Mb, 280Mb hard disk, FPU 1942 monitor, HP DeskJet 500, USR Sportser 14.4 modem, loads of original software inc WW3.1, PPage 4.1, DPaint 4, Studio II and various games £1,400. Phone ☎ 01942 270417.

● **4000 030 33** FPU, 124 hard drive, 10Mb RAM, SCSI CD-ROM, two hard disk floppy drives £1,000 or PX 1200. Phone John on ☎ 0151 356 0264.

● **LightWave 3D 3.5** stand-alone PAL version, boxed with LightWave Essentials video, complete with manuals and dongle £350. Phone Keswick ☎ 017687 78527 and ask for Carl. All sensible offers comsidered.

● **A1200** 120Mb hard drive, 10845 monitor, Zappo CD ROM, HP colour InkJet printer, CD's/games/serious, all you need and there's more, £800. Phone Mac anytime on ☎ 01472 398691.

● **Amiga 500** 1Mb £50 Star LC2W colour printer with extra ribbons £100, LC10 auto sheet feeder, £50 various software. Call Richard for details on ☎ 01622 743183.

● **A1200** with 200 disks £250, A1200 with 80Mb hard drive £300, Stereo Monitor £100, 180 original software titles from 80 pence each, "Will send cash on delivery". Phone ☎ 0956 558024.

● **A1200** 240Mb HD, PC1204, 40MHz 68882 FPU, Wordworth 3.1, games £450, CD³² nine games, 11 cover CD's £140, 4Mb PCMCIA A600/1200 £90, best offers. Tel Harlow ☎ 01279 454655.

● **ROM Kernel** manual Libs deus Amiga programs handbook, plus GFA Basic 3.5 and related books, A LSO upgrade video £40 o.n.o. Phone Tim on ☎ 01594 544214 after 5pm on weekdays.

● **Commodore A3640 card** with 25MHz 68040 CPU as fitted to A4000/040 £320. Phone Barry Winter on ☎ (Denmark) +45 98 183564.

● **Amiga 1200,** Blizzard 1220/4, 120Mb hard disk with video back-up system, multi sync monitor, Cannon BJ10EX with sheet feeder, two external drives sound sampler, Rombo VIDI 12 digitiser software £650. Phone Middlesborough on ☎ 01642 787034.

● **Atari ST emulator** for the Amiga, £4.00 including P&P. Phone Matthew on ☎ 0181 524 4326 evening or ☎ 0973 301882 mobile.

● **BBC emulator** for the Amiga £4.00 inlcuding P&P. Phone Matthew on ☎ 0181 524 4326 evening or ☎ 0973 301882 mobile.

● **Sinclair QL Emulator** for the Amiga, £4.00 inlcuding P&P. Phone Matthew on ☎ 0181 524 4326 evening or ☎ 0973 301882 mobile.

● **Spectrum 48K Emulator** for the Amiga £4.00 inlcuding P&P. Phone Matthew on ☎ 0181 524 4326 evening or ☎ 0973 301882 mobile.

● **PC emulator** for the Amiga, £4.00 inlcuding P&P. Phone Matthew on ☎ 0181 524 4326 evening or ☎ 0973 301882 mobile.

● **A4000/30** with 4 + 2 Mb RAM 170 Mb HD MIDI interforce plus extra floppy with 33MHz 68882 FPU. Reluctant sale at £950. Phone ☎ 01443 472200 after 4pm South Wales area.

● **Amiga Shopper** issues from No. 28 August 1993 to issue 51 July 1995, some disks, offers please. Phone ☎ 0161 230 7641.

● **100 5.25** inch hard disks £15.00 without disk sleeves including P&P. Phone Matthew on ☎ 0181 524 4326 or ☎ 0973 301882 mobile.

● **10 DD** disks full of Spectrum snapshots on PC Format disks, over 100 disks £10.00. Phone Matthew on ☎ 0181 524 4326 or ☎ 0973 301882 mobile.

● **100 3.5** inch hard disks £25.00 including P&P. Phone Matthew on ☎ 0181 524 4326 or ☎ 0973 301882 mobile.

● **GVP Impact** series II A2000 HC + 8 SCSI and RAM controller card with 4Mb Fast RAM on board £130. Phone Reg on ☎ 01270 760912.

● **12Mb Static** column 21PS for A3000 £80.00 per Mb also PPS 25MHz 040 accelerator for A3000 £350. Phone Mike on ☎ 01235 848412 after 7pm.

● **Multi sync monitor,** forefront MT5 9600, 15.5 -37 KHZ scan range, 0.28 MM dot pitch, 14" suitable for Amiga 1200, adaptor lead included £150. Tel Jason on Tunbrige Wells ☎ 01892 890042 after 6pm.

● **Amiga 1200** Desktop Dynamite pack, unwanted gift, never been used, bargain at £250. Tel Jason on Tunbridge Wells ☎ 01892 890042 after 6pm.

● **Golddisk** Professional Draw 3.03, Professional Page 3, plus extra fonts and clipart, requires 2Mb and HD £60, GVP Cinemorph requires 3Mb, £15. Phone James on ☎ 01752 558847.

● **Motion Master** Vol 2 for LightWave registered version £50, cost £120. Phone Norman ☎ 0191 487 3457.

● **A1200** 210Mb HD, 4Mb RAM, 10845 Monitor, lots of software, games and serious stuff, commercial and PD. Quick sale hence £550. Phone Alan on ☎ 01677 41647.

● **A1200** 40MHz 68030, 6Mb RAM, 60Mb HD, CD-ROM, 10845 monitor, NEC P6 24 PIN printer, plus software £750. Phone Steve on ☎ 01245 495137.

● **Amiga 3000,** 10Mb RAM, 185 Mb HD WB1.3/2.04, 1 1.76 Mb and 2 88DKB floppy drives, under warranty until 06.96, various software £900. Phone Matt on Wells ☎ 01793 825751.

● **GVP HC8+** Series 2 SCSI hard disk controller and RAM card for Amiga 2/3/4000,

▶ 52

51 £85 Trilogic sound sampler (stereo) including software and leads, £25. Phone Matt on Wells ☎ 01793 825751.

● **Goldengate 386SX** emulator for Amiga 2/3/4000, 8Mb RAM, Maths Co-processor, 340Mb H/D, 1Mb SVGA card, IBM monitor, MS-DOS V6.22 plus Windows 3.1 £500. Phone Matt on Wells ☎ 01793 825751.

● **Power PC** 88013 Ext drive £30, Star LC200 printer £95, Power supply A500/A1200 £20, PageStream V2.2 £45, PageSetter 3 £25, ZY-FI External speakers £20. Phone Paul on ☎ 01844 353257 Oxon.

● **Amiga 500** WB1/2 disk drive monitor GVP hard drive A500 42Mb, 2Mb RAM plus extras £350, will sell separately. Amiga Shopper issues 3 to 42, 20p plus P&P, Coverdisks. Tel ☎ 01480 890740.

● **Photogenics 1.2** new, boxed, unused, £40, DPaint IV AGA new,unused £25, Understanding Imagine 2 book, + extras disks £17.50. ☎ 01273 493659.

● **Wordworth 3.1** £40, Theme Park AGA, SimCity 2000, Gunship 2000 AGA, Liberation, Frontier, Diggers AGA, Monkey Islands 1 & 2, Indy Jones Adventure (no boxes), £10 each. Tel James on ☎ 01752 558847 evenings.

● **Amiga/Rendale A8802** genlock for video titling, complete hardware, software, manuals, excellent condition £95.00. Phone ☎ 01706 622135.

● **Amiga games** and software, all boxed with manuals, Deluxe Paint 3 plus 4 upgrade £20.00, TV Text and Fonts-video titling £25.00, Strider and Pac-Mania £8.00 for both. Phone ☎ 0706 622135.

● **Phillips CM8833 monitor** £150, GVP A1230 68030 accellerator (4Mb RAM) £350, external disk drive £25, V-Lab Par frame grabber £250, Canon BJ-200 InkJet £150, Scala MM200 £20. Phone ☎ 0161 236 7816.

● **Amiga 1500**, Workbench 2.1, GVP SCSI controller, 52Mb drive, extra Mb RAM, 1084 monitor, £350 the lot, or phone and haggle Mark on Brighton ☎ 01273 540542.

● **Spectrum emulator** for the Amiga including P&P. Phone Matthew on ☎ 0181 524 4326 evenings, or ☎ 0973 301882 mobile.

● **Amiga 4000/40LC** Emplant with SCSI, CD-ROM (triple speed) plus £400+ software, 10Mb RAM, 2 40Mb HD, offers? Phone ☎ 01209 214155.

● **Amiga 500+** with 40Mb A500 hard drive plus second Cumana 3.5" drive, £100's worth of software: Analyse, Scrabble, Graphologist, GB route, Poolmaster, Cashbook, Home Accounts, inc. manuals, colour monitor £295. Phone ☎ 01253 739002/796027.

● **About 30 Amiga Shoppers** and 20 Amiga Worlds for 50p each, Protext 6, £15, Amiga Vison £10, SCART Lead £5, Serial lead £5, Kickstart Guide Book £1. Phone Bath ☎ 01225 316726.

● **Of course you're not interested in games**, otherwise you'd buy Chess Champion, Knights Of The Sky, Lemmings 2, PGA Tour, Syndicate or PFA European for £5 each. Phone Bath ☎ 01225 316726.

● **Amiga 4000**, 40MHz FPU, 6Mb RAM, 214Mb hard drive, VIDI Amiga 24RT Commodore 1942 monitor, over £1,000 of software, 12 month old boxed as new, £1,000. Phone ☎ 01271 22037.

● **Amiga 1200**, 120Mb hard drive, 6Mb RAM FPU, 33MKZ Power CD-ROM, Microvitec 1438 colour monitor, Canon BJ10 printer, Trust 80 Watt speakers, loads of software, all boxed and manuals, sell for £1,000. Phone ☎ 01592 203279.

● **Overdrive 170Mb external hard drive** for Amiga A1200, good condition, eight months old, boxed with instructions and software £120 o.n.o. Phone ☎ 01787 475307.

● **Amiga 4000/030**, 240Mb HD, 8Mb FPU 1942, CD-ROM, LightROM, Raytronic Vol 1, external DD, Vidi Amiga 12, Imagine 3, Brilliance, Dir Opus, Essence, hundreds of PD, 80 magazines. Everything boxed £1,700. Phone ☎ 01324 484469.

● **Software**: Home Accounts 2, Maxi Plan 4, Superbase 2 £10.00 each. Phone ☎ 0113 2614025.

● **A1200**, 85Mb HD, 40MHz 68030/68882, 8Mb Fast RAM, Microvitec 1438 multi-sync monitor and software £900 ono. Phone Dave on ☎ 0115 981 3626.

● **Viper** 1 68030 28MHz expansion with MMU and 2Mb 72 pin SIMM, ideal way to upgrade an A1200! £160 o.n.o. Phone Jeff ☎ 01243 866399 between 6pm and 9pm.

WANTED

● **SIMMS**: one Mb, 32-bit, 72-pin, EG EX A4000. Phone ☎ 01635 866669 after 7pm.

● **Complete Amiga C** book and software wanted, as it's no longer available and I can't afford disk 3! Will pay £10 to £15. Phone Kevin on Derby ☎ 01332 703462.

● **AMITCP 4.1 or 4.2** working version WE4 all add-ons (Mall Archie etc.), swap for external disk drive plus cash or arrangement to suit. Phone Derby ☎ 01332 757202.

● **Complete Amiga C** by Cliff Ramshaw, must be in good condition with registered DICE disk and Commodore included, will pay £20. Phone Ben on ☎ 0181 985 3306.

● **TV modulator** wanted for A500+. Phone David on ☎ 0151 678 1343.

● **Exchange Suprafax** 14400 V32BIS, modem cables, PC/Amiga for ProGrab or Vidi Amiga 24RT. Phone ☎ 0191 266 1280 anytime.

● **SIMMS** 1Mb, 72-pin, 32-bit EG EX A4000. Phone ☎ 01635 866669 after 7pm.

● **G2 Type genlock** in good condition and sensible price please, Auto feeder for panasonic Printer KX 2124. Phone ☎ 01745 582783.

● **Seeking scriptwriting program** similiar to IBM's Scriptware, Curtainfall or Auscripter, Walt Deas, II Platypus Ave., Sorrento, QLD 4217, Australia. Phone/Fax ☎ +61 755 388 231.

● **Complete set of ROM Kernal manuals** must be (3rd Ed.) or will buy separately. Also wanted: Lattice/SAS C V6.0 or better, reasonable price payed. Phone Paul on ☎ 01206 574620.

● **Modem wanted** for A1200, must be cheap and fast, and in Glasgow/Scotland area. Phone 4.30pm to 10.00pm weekdays ☎ 0141 632 2672, Glasgow.

● **Amiga 600/1200** wanted, swap for Washburn RR10V Sharkfin electric guitar, excellent condition. Phone ☎ 015394 88302. North West.

● **Amiga genlock**, Maxigen genlocks, Rombo 24RT digitiser, any accelerator boards, 33/40MHz FPU, must be PLCC, wanted urgently, 130Mb IDE for sale £75 o.n.o, Vidilz £37, UNO Atoncet £35. Phone ☎ 0171 241 4881.

● **Swap my A1200** with 2Mb RAM, 14" colour portable TV, (white) and piles of serious and games software for your A4000/030/040 with colour monitor, A4000 spec doesn't matter. Phone ☎ 0131 447 3781.

● **Image 2 Textures** (Essence etc.) wanted as cheap as poss! Also RAM board for A1200 again, must be cheap! Write to Sean, 41 Larwood, Worksop, Notts, S81 0HH.

● **SCALA MM-300** manual required. Willing to pay reasonable price. Phone Fred anytime on ☎ 01524 425526.

● **CanDo contacts** please, write to Bradley Ernstzen, 3 Mariner Way, Elfindale 7945, Cape Town, South Africa.

● **A4000** keyboard or any Amiga keyboard with 6-pin mini-pin PS/2 type. Phone Tony on ☎ 0860 241931 after 7pm.

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PERSONAL

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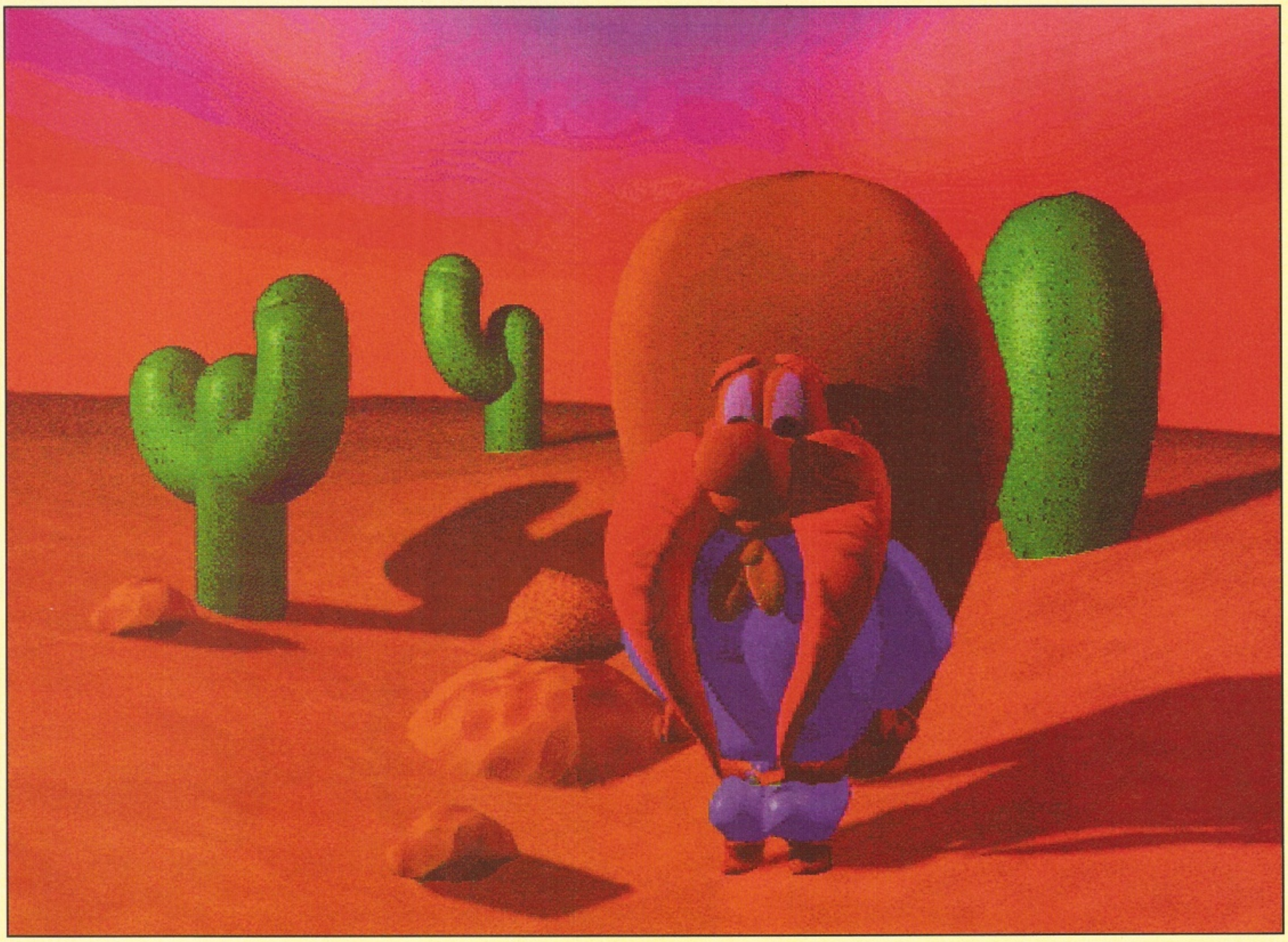
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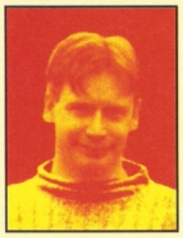
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Here is a fine semblance of a certain cartoon character, modelled in Imagine 3. The picture took three hours on an A1200 with a Blizzard 40MHz 68030 accelerator and 14Mb RAM. What's more, Jonathan McBrien, the creator, has given us the objects and scenes, so you can find them in the 3D Zone on this month's Coverdisk. If you want to win £25, render or draw a picture, save it as a JPEG and send it to: **David Taylor, Future Publishing, 30 Monmouth St, Bath BA1 2BW.**



In a perfect world, this section of the magazine would be superfluous, but the fact is Amiga Answers draws the most readers, because it is here that we try and sooth the sweat-soaked brows of agitated Amiga users. There are those whose life has been devastated by their Amiga-related problems, and thanks to our panel of experts, these people are now able to pick up the pieces of their shattered lives. Read on, then, as we try and solve your conundrums.



Paul Overaa is our Operating Systems programming expert. He has written several books, including: Mastering Amiga Assembler, Mastering Amiga ARexx and Mastering Amiga C. His main interest is in program design and he is heavily into the music side of the Amiga. Paul's other interests are red wine, maths and wind-surfing!



Gary Whiteley is our expert on video and graphics. He regularly produces work for films and TV. Gary has also written books – amongst them is Amiga Desktop Video, published by Future Publishing. Gary also regularly reviews new products for Amiga Shopper – if you turn to page 42, you'll find out what he thinks about the rendering package Real 3D version 3.



Toby Simpson is our code clinician. This month he finishes our lengthy DICE tutorial (see page 76). Toby has also written several books, including ARexx: Your Built-in Turbocharger, published by Future. Toby's day job is working for Millenium Software, programming their games, which just goes to show that he knows a thing or two about his subject!



Larry Hickmott is our DTP and word processing expert. He produces his own DTP magazine called Em and has written several books on his favourite topic. He has just finished a book called the Wordworth Companion for Digita and Future Publishing's books division. Larry has also written the first part of our DTP tutorial (see page 64).

AMIGA ANSWERS

Help me! The cries of the damned often echo round the offices, especially on Wednesday afternoons. As ever, we are here to help you out in any way we can. In these hallowed pages, you'll find every type of problem discussed. Except for really personal ones.

Wordworth woes



The following are problems that I have been having with Wordworth since the 3.1 update. I would be very grateful if you could give me some answers.

Wordworth was originally installed on my Work partition and operated perfectly for some months. For assorted reasons, I never was able to install it on a SyQuest cartridge, my original intention. One day, for no apparent reason, Wordworth ceased to run. It stopped after loading the page layout but before bringing up the toolbar. The program locked up and refused to close down or respond to any menu items.

On attempting to re-install (using the install program), everything stopped immediately after the chosen printer driver was loaded. The Wordworth screen was completely locked and could only be freed by re-booting, although Workbench menus and Directory Opus were still active and useable.

Answers contents

If you are looking for a solution to a particular problem, why not try using this handy index to the questions in this issue. It's arranged by topic, so if you are being kept awake at night by a noisy hard drive, then be on the look-out for any mention of hard disks.

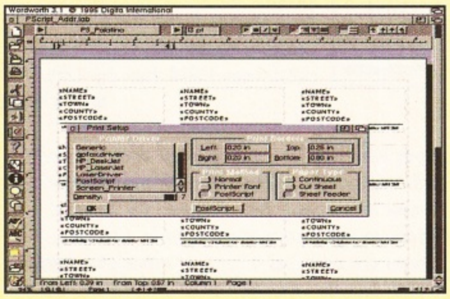
I again tried to re-install on a SyQuest cartridge. The result was exactly as before – the install process locked immediately after the chosen printer driver was loaded. I then installed Wordworth on to floppies with no problem at all. So I then checked all the installed files on my hard disk against the files on the floppies and they are all there and correctly installed.

In desperation, I re-installed Workbench. It was still impossible to install Wordworth. I am unable to obtain a log file from RAM because the install fails and leaves the log file open and consequently unreadable and unrecoverable. When I attempt to run Wordworth from the hard disk after setting up the opening page, what I do see are messages in the title bar like 'Unable to OPEN fonts' and so on. It is then that the program shuts down. I have around 2.5Mb of Fast RAM and 1.7Mb of Chip memory when loading Wordworth.

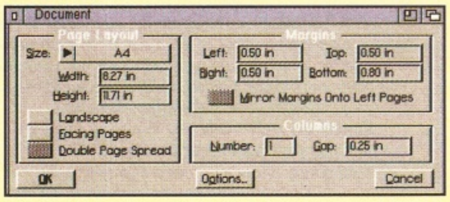
I also have problems with margins in Wordworth. One of my early observations was the fact that I could not reduce the margins below 0.25", particularly top, left and right. This presents particular problems when producing labels. Sheets of adhesive laser labels demand that top and side margins are set at zero or at least to a very small figure. Other word processors allow for this but not apparently Wordworth.

Is there any explanation for this restriction? My printer is an HP 550C and I was originally told that this is something to do with the way the HP 550C operates. Other software however seems to overcome this, i.e. Final Writer.

I intend purchasing your book the Wordworth Companion. I am sure that it will



Before you can set your Document settings, you need the Printer hardware margins set correctly.



The minimum margins that can be set in Document settings are the same as the margins set in Printer Setup.

help me with some other problems that I have, or should I stick with Final Writer?

Roy Stephenson
Preston

Although you gave me a lot of information, there is still a lot missing. Such as what Amiga do you have? How are you driving the SyQuest – a Squirrel perhaps? Are you booting from the SyQuest? Do you have any other programs running from the SyQuest? As Wordworth works okay from floppy disk and also from your hard drive, this suggests that the problem possibly lies with the SyQuest or it's supporting software. It must also be said that removable hard drives like the SyQuest are used more for data storage than for storing programs.

That said, it should be possible to run programs from it. Your best bet is to contact Digita (☎ 01395 270273) making sure to give them as many details as you can. Try to be very concise with your explanation of the problem. That way you won't give them any extra information that could mislead them. Attempt to re-install Workbench, remove any third party utilities from start-up and get your Amiga back to standard.

If Wordworth fails to install on to your hard drive or the SyQuest, come up with a Log File. If the Log File to RAM is being deleted after the Install process is aborted, then you need to send it your printer. This requires some editing of the Install script for Wordworth 3.1. Follow these steps:

1. Make sure the disks you are working from are copies of your originals. Never alter your master disks.

2. Copy the file 'Install Wordworth 3.1' (Ww3.1Install-1 disk) to a safe place as a back-up. Do not edit this copy.

3. Load the file 'Install Wordworth 3.1' from

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Timer interrupts

Interrupts! Can I get the hang of them? Can I fluffle! Here's what I'm trying to do: I need to read 1,500 samples of a sound source via a sound sampler connected to the parallel port, at a rate of 25,000 samples per second (or as near as possible). I need to store the samples in an array in order to perform some type of pattern matching on the data. Can you point me in the right direction as to how to implement an interrupt routine which will allow me to achieve high sampling rates? And before you tell me to look in the Hardware Reference Manual, I have, and I don't understand a word of it!

Phil Mayne
Jarrow, Tyne & Wear

You've said that it's the interrupts that are the stickling point so I'm going to assume that you are already aware of things such as the necessity for you to take complete control of the parallel port (in order to configure it for reading or strobing to get your data read and so on), and that to do this you need to use the Amiga system software's Misc Resource.

To achieve high frequency sampling rates you need parallel port reading intervals of a correspondingly short time period and for your 25,000 samples per second goal (which to be honest is not that high) you are looking at read intervals of 40 microseconds. Although I'm tempted to suggest that it might in this case actually be worth doing some preliminary experiments with, say, the system's Microhertz Timer device, I suppose I'd better play safe and tell you what you want to hear, namely that the execution time overhead of conventional timer I/O requests would usually be considered to be far too high for this type of application. In short, most people would advise that you engage in more 'metal bashing' and hit the CIA timers directly (having first acquired the right to do so by opening the CIA Resource).

CIA Timers, as I'm sure you already know, can be configured so that an interrupt signal is generated when a counter underflows (i.e. counts down past zero). The Amiga Hardware Manual contains plenty of information (far too much for us to duplicate here) about setting up the control byte and so on and this is one area of the manual you need to persevere with – your program's time intervals need to be set by placing appropriate counter values into the Timer Hardware registers. Adding the Timer Interrupt itself involves setting up an Interrupt structure and then making an Exec AddICRVector() call. Listing 1 should give you the 'general flavour' of the code – it shows typical C routines for adding and removing Timer Interrupts (don't pay too much attention to the hardware values being used – they're just for example purposes).

The Interrupt code itself needs to be kept short and in fact the normal way to perform Timer-based interrupt processing is to just have the interrupt routine signal another task that then handles the real processing required (the idea here being to avoid overburdening the interrupt system). Listing 2 shows a typical skeleton piece of interrupt code that follows this pathway whilst listing 3 provides a general example of how the CIA control functions would look from C. In this case I'm using a 'one shot' approach and just poking a delay value into the Timer Counters, starting the Timers, waiting until my interrupt routine sends a signal to say the time period is up, and then stopping the Timers.

The good news, from your viewpoint, is that by the sound of it you don't appear to have much processing to do – you'll just be reading a byte of data and copying it to some chosen memory location! Since you may not need to worry about Task Signalling and the like, it may therefore be possible to simply replace my Signal() statement in listing 2 with whatever read/copy operations your program requires. In this case you'd need to use a global counter variable to keep track of the number of samples taken to allow you to kill the Timer Interrupt generation after each chosen sample-taking period! ***Paul***

Listing 1: Typical routines for adding and removing timer interrupts.

```
/* ————————————————————————————————— */

UBYTE AddTimerBinterrupt(void)
```

Ww3.1Install-1 disk into a text editor like Text Master, which can be found on the August Amiga Shopper Coverdisk (AS52).

4. Go down to the last line in the script which starts Ww3.1Install-1...

5. Using the cursor keys, move along the line until you get to 'NOPRINT'. Delete this word and save the file.

6. Now when you run the 'Install Wordworth 3.1' install script, you should get the option to send the Log File to the printer.

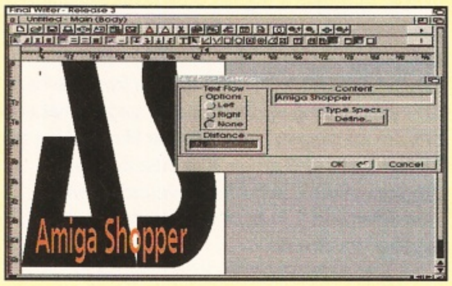
Once you have done all that, try installing Wordworth again and if it fails send a letter to Digita Technical Support and make sure to include the printed log file, as well as details of your system.

The symptom of Wordworth not being able to initialise because it can't find its fonts is fairly normal if the fonts in Wordworth's directory and in Sys:Fonts have not been installed properly. To cure this, re-install Wordworth.

The problem you are having with margins in Wordworth is easier to explain. You can set whatever margin you want in Wordworth, right down to a figure of zero if you feel the need. There is a knack to this which is explained in detail in the Wordworth Companion but to get you going now, here's a little tip.

Before you can set the required margins for your Document (Format/Document) you need to set the hardware margins for your printer in 'Printer Set-up' (Project menu). The hardware margins tell Wordworth the maximum printable area your printer can manage. How to work this out is too tricky to explain here, but there is a lengthy section in the Wordworth Companion.

You can't set anything less than 0.25" in Document margins because 'Printer Setup' has your margins set to 0.25". If, for example, you set a top hardware margin of one inch in Printer Setup, that would be the minimum you could set for the top margin in Document margins.



Filling your page with text is dead easy with Final Writer.

As for your problems with labels, I use Datastore in conjunction with Wordworth 3.1 to produce the thousand odd labels I need when sending the magazine to all my subscribers. The version of Wordworth I'm using is 3.1 revision 2. If you haven't got that, then contact Digita. It does work, honest. ***Larry***

Choosing your word processor

Which word processor would be suitable for me to print letters three inches high? If it's Wordworth, which version? Do I need more RAM than my 1Mb?

Mrs J. Tong

Both Wordworth 3.1 and Final Writer 3 can print characters of that size. Of the two, Final Writer is probably better suited for big text because you can make use of text blocks. These are sections of one or more characters which can be stretched to fill the page. You can't stretch text in Wordworth but you can size it and characters three inches high aren't a problem.

Whichever program you choose, one thing you will need is lots of memory. I notice you only have 1Mb, which won't be enough to use these word processors. You don't say which Workbench you have either and to use either Wordworth or Final Writer, you'll require at least Workbench 2. Final Writer and Wordworth 3 also need a hard drive. ***Larry***

No manual for the Star

I was given a Star LC 10 mono printer, but have been unable to get a manual. You will see from the attached printout that the right-hand side only prints alternate pins. Is there a cure for this?

N. H. Blewett
Devon

I rang Star and they offered a number of solutions. Firstly, manuals are available from a number of sources, one of which I'll give you in a moment. Secondly, the problem causing the loss of quality could be a printer head cable. These can be replaced for around £30. It may also be the driver on the main board inside the printer and that costs a little more, although not that much more I'm told. The last solution is a new printer and they can be bought for £90 (LC-90). Try calling Beacon Technologies Services on ☎ 01494 672206. ***Larry***

Driving the Stylus II

In your August issue (AS52), page 59 (Driving the Stylus), one of your readers writes in with two particular problems he is having with his Stylus Color printer, namely banding plus output which is both too dark and too red.

```
{

UBYTE error_number=NO_ERROR;
g_interrupt.is_Node.ln_Type=NT_INTERRUPT;
g_interrupt.is_Node.ln_Succ=NULL;
g_interrupt.is_Node.ln_Pred=NULL;
g_interrupt.is_Node.ln_Pri=127;
g_interrupt.is_Node.ln_Name=NULL;
g_interrupt.is_Code=&TimerBinterruptCode;
g_interrupt.is_Data=NULL;

if(AddICRVector(g_cia_resource_p,CIAICRB_
TB,&g_interrupt))
error_number=ALLOCATION_ERROR;

else {

    g_function=RemoveTimerBinterrupt;


PushStack(g_resource_stack_p,g_function);

    ciab.ciacra=0x00; /* set timer A
control reg 00000000 */

    if(SysBase->PowerSupplyFrequency==50)

        ciab.ciatalo=0xB6; /* timer A
low data = 182 for PAL*/

    else ciab.ciatalo=0xB7; /* timer A
low data = 183 for NTSC */

    ciab.ciatahi=0x00; /* timer A high
data */

    ciab.ciacrb=0x48;  /* set timer B
control reg 01001000 */

    }

return(error_number);

}

/* ------------------------------------ */

void RemoveTimerBinterrupt(void)

{

RemICRVector(g_cia_resource_p,CIAICRB_TB,
&g_interrupt);

}
/* ------------------------------------ */
```

Listing 2: Interrupt routines must be kept short and often this is done by signalling another task to do the 'real' processing!

```
/* ------------------------------------ */

void __saveds __interrupt
TimerBinterruptCode(void)

{

Signal(g_task_p,1L<g_timeup_sigbit);

}

/* ------------------------------------ */
```

Listing 3: Some typical C-based timer hardware code!

```
    ciab.ciatblo=(UBYTE)delay;        /*
timer B low data */

    ciab.ciatbhi=(UBYTE)(delay>8);  /*
timer B high data */

    ciab.ciacrb=0x49;    /* start timer B
*/

    ciab.ciacra=0x01;    /* start timer A
*/

    Wait(timeup_mask);

    ciab.ciacra=0x00;    /* stop timer */
```

These are known problems which have crept into some Stylus Color printers. Your reader has a broken printer and should contact his dealer for a replacement.

With a properly working Stylus Color printer and Studio II Professional installed, the output from the Amiga is every bit as good as that from a PC using the Windows driver, as very many of your Studio II Professional and Stylus Color owning readers will affirm.

Also, Studio II Professional now supports the new Hewlett-Packard DeskJet 660 and 850 printers, plus the new LaserJet 5 series.

Jeff Walker
Just Amiga Monthly (JAM)

Thanks, Jeff. Hopefully Weyens Guy from Belgium will now be able to solve the printing problems he was having and produce output he's proud of. ***Dave***

Imagine confusion

Program Software

I am a little confused as to your Imagine answers concerning the "Use Genlock" button.

In your reply to Dave West (Imagine that, Issue 48) you tell him to use the "Use Genlock" button to remove all parts of Colour 0 from a brush map. Yet your answer to Daniel Lee Him (Imagine On – I, Issue 49) states that the "Use Genlock" button does not determine whether the background colour on a brush map shows through.

Weren't these two people trying to do the same thing? Craig Collins (Issue 42, page 35) states "they were also genlocked so that the surface attributes of the objects below could show through".

Could you please explain why you've apparently given two different answers to the same problem?

On to my own questions with Imagine 3... I have an Amiga 1200 with 6Mb RAM, a Viper 68030 card and FPU and a 120Mb hard drive. For the purposes of these questions, I'm using Imagine 3, Forge, Essence II and VMM 3.0.

1. In the additional documentation supplied on the disks there is mention of a Lens Flare Global FX which you use in the Action Editor. However, there is also a Lens Flare texture detailed in the texture guide, but I've looked in my textures directory and can find no trace. Is this file missing in this version?

2. Imagine 3 also allows you to add textures to lights. How do you add these to lights, when you can only add lights in the Stage Editor, not the Detail Editor? Adding Lite textures to light objects and normal objects appears to produce the same results.

3. In the Spline Editor, when adding points to PostScript fonts to extrude them, I get the error message "FACEIT: all intersecting Bug 2". The next error message is "psfaceit error: show results?" and answering 'yes' prompts Imagine to tell me "Edge 34 is numbered wrong". This error message repeats right up to number 143 then a final error message appears with "psc_ecount is wrong". If I answer 'no' a further error message appears saying "Not enough RAM" (I get this even when using an extra 12Mb of virtual memory). Not every letter in the same font has this problem (though it's always the same letters) and some fonts extrude OK.

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Imagine produces excellent results, but is the cause of lots of Amiga Answers letters.

Archivers and Packers

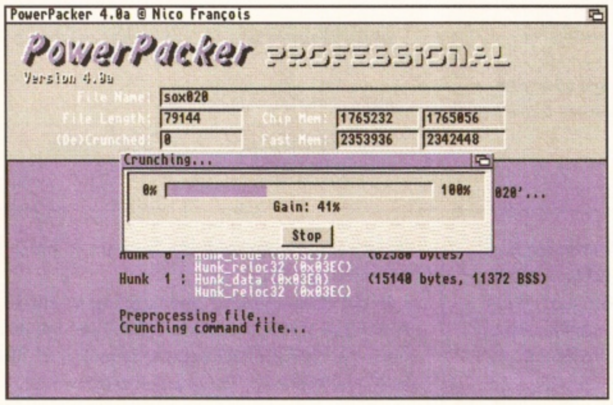
There have been several queries this month concerning how to get more on to your disks. It seems that your PD collections are growing at such a rate that your collection of floppies can't cope.

As you can see from the Coverdisks, it is indeed possible to fit far more than the usual 878K on to a disk, and there are several ways to go about it. The Coverdisks are archived, which is the most efficient method. The drawback, of course, is that archiving, which reduces the size by encoding duplicate data, leaves the program in a state that cannot be used without going through the de-archiving process first. This means that although you get the best results, you always need an appropriate amount of storage space to de-archive too, which makes this solution cumbersome (continually de-archiving).

There are two real options for people who want to get more on to their disks. If the disks are not bootable, that is if they are loaded from Workbench, then you could look into using a different file system on the disks. Diskspare, a PD file system, will allow you to get up to 980K on a normal floppy, so each of your disks could store another 100K. Although I've used this system without problem, it isn't an official file system and you risk losing some data, should you have problems with the disks, so be warned.

The other option is probably the most popular, which is to use a Packer. Packers crunch files, including executable programs, and reduce their size, sometimes by nearly 50 per cent. These files retain their executable status, so you can still simply click on them. The most famous packing program is PowerPacker. Again, there is always a slight risk of loss of data, and a few programs do not like being packed.

If you really want to squeeze the most on, then you could even think about combining the last two options.



PowerPacking files is one of the easiest and therefore most popular ways of getting more on to a single floppy.

4. In Preferences, under Misc. stuff, I'm right in thinking that EDLE should be set to 0 for final renders but what should AARC underneath it be set to and what does it mean?
5. Can you explain in words of one syllable how to use Depth Of Field in the Action Editor? The supplied documentation just confuses me!
6. With the help of the textures I have, can you give me some help to produce a small flame effect and some smoke that goes with it? I've tried using the fog textures to create smoke, but without success.
7. Why is it that Imagine can read Essence textures but Forge is unable to read ones created in Imagine?

I hope these aren't too many questions for you to answer. Perhaps you could have a regular 3D raytracing questions and answers page covering other software, not just Imagine?

Gary Bryant
St Leonards On Sea, East Sussex.

Oops! You're absolutely right – I goofed big time, and in print! So now I have to eat dirt and apologise. Yes, Use Genlock does work to remove the background colour of a brush, so long as the background colour has been picked up with the brush in the first place. I'm baffled why I wrote what I did in my reply to Daniel Lee Him – it's definitely wrong. Looking at the question again the failure may have been due to him trying to use an AGA brush in Imagine 2, which doesn't work with AGA images. Otherwise there should have been no problem with the Use Genlock button. So apologies to all concerned and I'll endeavour to see that such clumsiness doesn't happen again.

Now to your questions...

1. Yes, you're correct. In the docs there is mention of LensFlar.itx, and indeed it is described in the IMTGuide (a PD program available on the Aminet, if you have Internet access), where there is even an illustration of what it looks like in action. But, just like you report, it doesn't exist in my Imagine installation either! I checked all the disks for versions 3.0, 3.1 and 3.2 and there's no LensFlar.itx to be found on any of them. So all I can conclude is that whilst it may have made the docs, and escaped on some early releases of 3.0, for some reason LensFlar.itx no longer exists as part of the distributed version of Imagine.

2. Actually, you can make light objects in the Detail Editor. For instance, add a primitive sphere, then press F7 (to open the Attributes Requester) and press the Light button. A new menu appears with a selection of settings which can be applied to the light object, including point or parallel rays, colour etc.

As for adding textures to these lights I have to admit I'm stumped! I've tried this on and off over the years and I've never managed it with any success at all. Of course that's not to say that it isn't somehow possible, but having checked all the documentation several times over (and there's no mention of applying textures to lights to be seen anywhere), and tried all I can think of to make textures other than Lite textures work, I have to conclude that, at least as far as I can see, this isn't possible. If any of you clever readers out there know better, drop me a line at Amiga Shopper and put us both out of our misery!

3. This is almost certainly a problem caused by some of the PostScript fonts you are using rather than the Spline Editor, especially if the fonts are from PD sources. Quite often it appears that such fonts either have corrupted or slightly scrambled vectors and, as a result, they won't work properly in 3D, as well as DTP and other programs. One solution is then to find another font which will work and still give the look you require. An alternative might be to buy a copy of Typesmith (a font design and conversion program) and try to rebuild the faulty letters, then save the font once more in a Postscript format.

4. Yes, you're right about EDLE – 0 is best for final renders. On the other hand AARC should be set to its maximum of 255, since this determines how many times a single 'ray' of light will be calculated for each pixel rendered. The higher the value, the more accurate the final image will be. At least that's my interpretation of AARC, based on using it, since I can find no information about it in either the Imagine manual or the additional on-disk docs.

5. No. At least not in words of one syllable! Once again, I agree with you that the docs Impulse supplied to explain Depth Of Field are hardly very clear. It took me quite a while to even make sense of DOF, and I'm not sure I entirely understand it, even after hours of fiddling with it. Impulse's attitude is often that it's up to the user to experiment. Fine, but a workable tutorial would certainly have provided a good starting point. Instead we have to plough through some kind of directionless mathematical gibberish!

In simple terms, there are two important things you need to know. The first is how far from the camera you want the objects to be fully in focus, and you also need to know the length of the camera's Y-axis. Do this by checking the camera's Size bar in the Action Editor or by using Right Amiga-T in the Stage Editor whilst the camera is selected.

The second is that you need to add a Camera Actor in the Action Editor (you'll find its position right at the top of the Camera settings). Once you've added the Camera Actor a requester appears with a number of choices and numeric boxes. Make sure that you have the first box – Y-size is (DOF) Focus Distance – activated.

The Distance Multiplier numeric field relates to the Y-size of your camera axis. As an example, say your camera had a Y-size of 640, and you want everything at 300 units from the camera to be in sharp focus. To get the number to enter in the multiplier field, divide 300 by 640 (= approximately 0.47) – in other words the camera Y-length (640) multiplied by 0.47 = 300 – the distance you want to be in focus.

The next numeric field – Aperture Size (DOF) – is something to do with either the camera's width, or 'pixel defocusing' – whatever that means. It also depends whether you've got the 'Ap. Size is DOF Width Multiplier' box activated, otherwise I think that

▶ 61

58 ▶ *the value is taken directly from the camera's X-axis size. Try a value of 0.01 in the Aperture Size (DOF) field as a starting point.*

At least, this appears to be how DOF works, but having played with it on and off over the last year I'm still no nearer really understanding what's actually going on!

So, do a test render, come back and change some parameters, see what happens next, and eventually settle on a method that suits you. Not an ideal way of doing things, but until Impulse come up with better documentation we'll probably never get the best out of the DOF feature. I wish I could tell you exactly how to do DOF, but I can't. Nevertheless, I hope these pointers will help to get you started.

6. I'm afraid this one really is too complicated to answer here. To give you an idea of what's involved, Steve Worley wrote a tutorial on how to make flames with his Essence textures in the first Apex newsletter (December 1992) – and it ran to four A4 pages of small type!

Of course you could skip the textures and map a sequence of animation frames made in a paint program on to a rectangle (or whatever object/s you choose) to approximate the look of flames and smoke.

7. As I understand it, Apex (the makers of Essence and Forge and now renamed as Worley Laboratories) had to reverse engineer the Imagine texture format since Impulse weren't willing to disclose it to them. Once they had done this and got the first and second sets of Essence textures on to the streets and almost finished developing Forge, Impulse decided to increase their own texture base and, while they were at it, made some changes to the format. This resulted in Forge being apparently unable to load Imagine textures (though in fact they will mostly load into Forge if you ignore the error message). Consequently, Apex modified their Essence textures to work with Imagine, but Impulse seemingly stuck to their guns and wouldn't play ball. So I think the majority of the blame probably lies with Impulse and their somewhat cavalier attitude, and not with Apex or Forge. ***Gary***

Troubles with C

Coding

Over the past couple of months or so, I have been teaching myself C programming using your DICE Coverdisk and about six text books from my local library. I have just booked myself on a four month course on C at Bedford College. Due to this, I was going to upgrade to the Complete C book which contains a full version of DICE. To my dismay, you seem to have stopped selling it! If this book is not still on sale, what compiler should I buy, bearing in mind I can't afford £200 for SAS C.

I also need PC emulation for the coursework, and have got my eyes on PC Task 3. Would this software emulator be OK for just compiling and running my programs, or would I need more RAM or even a multisync monitor?

Lastly, I seem to be having problems setting printer drivers and setting the keyboard on my system. I have copied the necessary driver and keymap but when I load up the preferences program, the list remains blank. This happens on both my customised WB disk, and an exact copy of the supplied WB disk. Please help!

P. D. Sprakes
Henlow, Beds.

The book is indeed no longer available. Unfortunate though this may be, there is some good news. SAS C is incredibly cheap these days, and there are special deals available for DICE users from the UK suppliers. For SAS enquiries, ring Hi-Soft on ☎ 01525 718181. To enquire about the latest price of DICE, you need to ring Forth Level Developments on ☎ 0117 955 9157.

PC Task 3 is almost certainly your best bet, but will provide at best a tediously slow emulation. In my opinion, unless the sort of PC work you're planning on doing is noddy work, i.e., the odd MS-DOS operation and utility, then I wouldn't bother. You are not going to get an 0acceptable performance (25MHz 386+) out of any software PC emulator, such as Emplant, or PC Task. Best thing is to try and pick up a cheap second-hand 386 DX 33 PC, which can be found at bargain prices these days.

If this is not a problem on your Workbench disk then I think it is probably because of a tampered-with StartUp-Sequence. Try using your StartUp-Sequence from the original Workbench disk. This sort of problem tends to be because a library, assign, or directory is missing on the cut-down disk. ***Toby*** ■

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Send your form and question to: Amiga Answers, Amiga Shopper, 30 Monmouth Street, Bath, Avon BA1 2BW.

Name: ____________________

Address: ____________________

____

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Your machine:

☐ **A500** ☐ **A500 Plus** ☐ **A600** ☐ **A1000**
☐ **A1200** ☐ **A1500** ☐ **A2000** ☐ **A3000**
☐ **A4000**

Approximate age of machine: ____________________

Kickstart version (displayed at the "insert Workbench" prompt)

☐ **1.2** ☐ **1.3** ☐ **2.x** ☐ **3.x**

Workbench revision (written on the Workbench disk)

☐ **1.2** ☐ **1.3** ☐ **1.3.2** ☐ **2.04/2.05**
☐ **2.1** ☐ **3.0**

PCB revision (if known). Do not take your machine apart just to look for this! ____________________

Total memory fitted (see AVAIL in Shell for Workbench 1.3) ______

Chip memory available (see AVAIL in Shell) ____________________

Agnus chip (if known) ____________________

Extra drive #1 (3.5in/5.25in) as DF : Manufacturer ____________________

Extra drive #2 (3.5in/5.25in) as DF : Manufacturer ____________________

Hard disk: ____________________**Mb as DH**____________________**:**

Manufacturer ____________________

Extra RAM fitted – type, size in Mb and manufacturer ____________________

Please indicate details of any other hardware which could help us to answer your question:

____

Now, use this space to describe your problem, including as much relevant information as possible. Please continue on a separate sheet if necessary.

____

User groups

Why not share your love for the Amiga with fellow enthusiasts? The complete Amiga Shopper User Groups listing is your at-a-glance guide to every Amiga user group in the world... probably. Get connected!

Southeast & East

Addlestone 1–1 Amiga Club.
Contact Peter Duckett ☎ 01932 855834
Banstead Limited Edition Software.
Contact Les, 28 Congcroft Av., Banstead, Surrey SM7 3AE.
Beccles Waveney Amiga (WAM).
Contact Andrew Rapps ☎ 01502 476223. 77 Pinewood Gardens, North Cove, Beccles, Suffolk NR34 7PG.
Bedford Nemesis Amiga Group.
Contact Andy Melbourne, ☎ 01234 350654, 126 Mallard Hill, Bedford, MK41 7QT.
Brentwood Brentwood Computer Club.
Contact Alan Holland, Sherwood House, Little Highwood Hospital, Geary Drive, Ongar Road, Brentwood, Essex. ☎ 01277 221620.
Brentwood Hermit Computer Club.
Contact Ann Jones ☎ 01277 218897. The Hermit, Shenfield Rd., Brentwood, Essex.
Brighton Hanover Computer Club.
Contact Colin Jones ☎ 01273 602834.
Bromley ICPUG South East.
Contact John Bickerstaff ☎ 0181 651 5436.
Bromtard Better Than Life.
Contact Mark Waters, 7 Linton Downs, Brotard, Herefordshire HR7 4QT.
Bury Amiga Group.
Contact Chris Skelhorn, c/o Thetford Micros, 7 St John's Street, Bury St Edmunds, Suffolk IP33 1SQ.
Camberley Camberley User Group.
Contact F Wellbelove ☎ 01252 871545.
Cambridge Cambridge Sixty-Eight Group.
Contact EPL Rowell ☎ 01954 210692.
Chesham Beaconsfield and District CC.
Contact Philip Lishman ☎ 01494 782298.
Clacton Cheapo PD Club.
Contact Jason Meachen, Ivy Cottage, Chapel Road, Beaumont, Clacton, Essex CO16 0AR.
Crawley Yellow And Blue Room.
Contact Malvin Wall, ☎ 01293 534139. Camfield, Langley Lane, Ifield, Crawley, W. Sussex RH11 0NB.
Corringham Imagine User Group.
Contact Spencer Jarvis, 44 Brampton Close, Corringham, Essex SS17 7NR. ☎ 01375 670036 (7pm–8.30pm).
Coulsdon The Crumblies.
Contact Frank Barron ☎ 0181 668 7695.
Deal Amiga Club.
Contact Wayne or John ☎ 01304 362297 or ☎ 01304 367992; 27 Mill Hill, Deal, Kent. Meetings at St Johns Ambulance Hall, Mill Hill, Deal.
Enfield Enfield Amiga Club.
Contact Sean Clifton ☎ 0181 804 2867.
Folkestone Amiga 101.
Contact D Cryer ☎ 01303 245 378.
Gerrards Cross Chic Computer Club.
Contact Steve Winter ☎ 01753 884473.
Hastings Computer Club.
Contact ☎ 01424 421480.
Horsham Amiga Zone.
Contact Gareth and Raymond, 7 Swindon Road, Horsham, W. Sussex RH12 2HE.
Ipswich Not the Night.
Contact Andrew, 8 Lanark Road, Ipswich, IP4 3EH.
Leigh-on-Sea Sensible.
Contact M Street. 158 Hadleigh Road, Leigh-on-Sea, Essex SS9 2LP.
Leigh-on-Sea The Swop Shop Club.
Contact Ian Prentice ☎ 01702 710267.
London (Woolwich) Inspira Software Club.
Contact David Cowell ☎ 0181 473 4426, 45 Sandy Hill Rd., Woolwich, London SE18 7BQ.
London (East Ham) Amigaholics Club.
Contact Kevin Bryan ☎ 0171 580 2000 Ext 240.
London (Hampstead Garden) Amiga Club.
Contact Imp ☎ 0181 455 1626.
London (Norbury) Imagine User Group.
Contact Richard Sequeira, 95 Stanford Road, Norbury, London SW16 4PP.
London (Winchmore Hill). Access Information Tech.
Contact Darren ☎ 01956 229729.
London PD for beginners.
Contact M. Macias ☎ 0171 924 5528 before 6pm. 14 Totteridge House, 15 Yelverton Road, London SW11 3QQ.
London Twilight.
Contact 13 Mavis Court, Ravens Close, London NW9 5BH.
Luton Plague Amiga Users Group.
Contact Russel Lewis ☎ 01582 484514; 44 Moreton Rd. North, Luton LU2 9DP.
Luton SPAM (Special Plague Amiga Musicians).
Contact Lee Pedder, 6 Ilford Close, Stopsley, Luton, Beds, LU2 8JT.
Luton Amiga Users Group.
Contact Dave ☎ 01582 481952.
Mundesley Amiga PD Exchange Group.
Contact Richard Brown ☎ 01263 720868.
Norwich AGA Exchange.
Contact K. Phillips, 18 Brownshill, Cromer, Norwich NR27 0QA.
Norwich Magic Windows.
Contact Frame, 26 St Benets Road, Stalham, Norwich NR12 9DN.
Rye Rye Amiga Group.
Contact Oliver Campion ☎ 01797 222876.
Sheringham Professional PD.
Contact Jonathan Fisher, 28A Woodland Rise West, Sunway Park, Sheringham NR26 8PF. ☎ 01263 824396.
Sittingbourne 3D Users Group.
Contact Simon Phillips, 43 Harris Gardens, Murston, Sittingbourne, Kent ME10 3PW ☎ 01795 475505.
Sittingbourne Sittingbourne Co-op Amiga Club.
Contact Andy ☎ 01795 842608. The Bungalow, Keycol Hill, Newington, Sittingbourne, Kent ME9 8NA. BBS ☎ 0181 905 7002 (data).
Southend-on-Sea Southend Team.
Contact ☎ 01702 333974.
Sutton Agnus.
Contact Philip Worrel, 115 Brocks Drive, North Cheam, Sutton, Surrey SM3 9UW.
Thetford Bizart Diskmag.
Contact Stephen Marghan, Timberton House, The Mount, Buckenham Tofts, Thetford IP26 5HP.
Thornton Heath Amiga BASIC Club.
Contact Imran Ahmad ☎ 0181 689 9102. Watford Hertfordshire Amiga users Group Contact keith Alexander 0181 421 1784.
Wakefield ICPUG Regional groups.
Contact Stuart Dunbar ☎ 01977 795892.
West Watford AmigaSoc. ☎ 01923 248483.
Windlesham Ninja Software PD.
Contact Gary Bowen ☎ 01276 479615, 11 Hutton Close, Thorn-down Lane, Windlesham, Surrey GU20 6DN.
Witham Amiga Witham Users Group.
Contact K. Anderson ☎ 01376 518271.
Worthing Imagine, LightWave, Real 3D objects.
Contact Michael Moorfield, 4 St Botolphs Crt, St Botolphs Rd, Worthing, West Sussex BN11 4JH.
Yarmouth Robotronix Amiga Club.
Contact P. Symonds ☎ 01493 667161

Southwest

Bodmin Amiga Users Klub (Bodmin).
Contact Alan Bennett, 32 Furze Hill, Bodmin, Cornwall PL31 2ES. ☎ 01208 77501.
Bournemouth Amiga Club.
Contact P Chamberlain ☎ 01202 296714.
Bristol Avon Micro Computer Club.
Contact Roger or Bob ☎ or Fax 01179 311642.
Bristol Bristol Amiga Club.
Contact 3 Parkstone Avenue, Horfield BS7 0BX.
Bristol EmuSoft.
Contact Nalpex, 48 Longhandstones, Cadbury Heath, Bristol BS15 5AP.
Charmouth ICPUG.
Contact Frank Hancock ☎ 01297 560224 (eve).
Dukinfield C. C. Swapshop.
Contact Tom Hampson ☎ 0161 339 9488.
Exeter Exeter 16-bit User Group.
Contact Andrew Deeley/Phil Treby at 25A Gloucestershire Rd, Exwick, Exeter EX4 2EF.
Reading Charlies PD.
Contact Charles Read, 10 The Cedars, Tilehurst, Reading, Berks RG3 6JW.
Redruth Ace Computer Club (ACC).
Contact Adam Scott, Tre Redan, Paynters Lane, Illogan, Redruth, Cornwall TR16 4DS.
Salisbury CHUD.
Contact Mr M Sellars ☎ 01980 33154.
Taunton HSPascal User Group.
Contact T. Long, 13 Longmead Close, Taunton, Somerset TA1 4SZ.
Taunton Imagine Object Makers.
Contact Charles Mo, 16 Calder Crescent, Taunton TA1 2NH.
Torquay Ami-Info.
Contact Paul Caparn, Homeside, Higher Warberry Road, Torquay, Devon TQ1 1SF.

Midlands

Birmingham 68000 in Birmingham.
Contact Mike Bedford-White, 16 Westfield Rd., Acocks Green, Birmingham B27 7TL.
Birmingham Software Exchange Service.
Contact Michael Pun ☎ 0121 459 7576.
Coventry Coventry and Warks Commodore Computer Club.
Contact Will Light ☎ 01203 413511.
Derby Living Poets Society. Publications.
Contact Sean Woodward. Fido 2:2503/104; 11 Menin Road, Allestree, Derby DE22 2NL.
Gainsborough Gainsborough 16/32-bit Computer Club.
Contact Martin, 39 Riseholme Road, Gainsborough, Lincs. ☎ 01427 677389.
Hereford Hereford Amiga Group Help.
Contact John Macdonald ☎ 01981 21414.
Leicester NFA.
Contact Deck Goodwin ☎ 01162 661 610. PO Box 323, Campbell St, Leicester.
Leicester Amiga Beginners Club.
Contact Andy ☎ 01530 223063 (eve). 4 Priory Close, Thrinestone, Leics. LE67 8NX.
Loughborough Leicestershire Amiga Users.
Contact Daz, Dave or Keith ☎ 0116 237 5147 or 01509 264197.
Loughborough BR & CJ Computer Club.
Contact B Robinson ☎ 01392 72889 or ☎ 013922 841296.
Melton Mowbray Melton Amiga Users.
Contact Stephen Mowbray ☎ 01664 63421.
Nottingham Robin Hood Amiga Users.
Contact Kristian Denman ☎ 01777 838248; 2 Beech Walk, Elkesley, Nr Retford, Notts DN22 8BB.
Nottingham East Midlands Amiga User Group.
Contact Richard Haythorn ☎ 01159 298075.
Solihull Deluxe Cheats Disk User Group.
Contact Steven Frew, 96 Campden Green, Solihull, West Midlands B92 8HG.
Solihull Sid The Kid Amiga.
Contact Sid Reeves ☎ 0121 705 8619.
Solihull Solihull Computer Users Group.
Contact Rich or Lee, 41 Leafield Road, Solihull, West Midlands B92 8NZ.
Stevenage ICPUG.
Contact Brian Grainger ☎ 01438 727925 (eve.).
Stoke-on-Trent The Amiga Studio.
Contact Dave Rose ☎ 01782 815589; 25 Zodiac Drive, Chell, Stoke-on-Trent, Staffordshire, Midlands ST6 6NJ
Stoke-on-Trent ANDY PD.
Contact Andrew Shufflebotham ☎ 01782 775014; 2 Sussex Drive, Kidsgrove, Stoke on Trent, Staffs ST7 1HG.
Telford Shropshire Amiga Link.
Contact N Cockayne ☎ 01952 591376.
Telford West Midlands Amiga Club.
Contact Kevin Genner, Telford Snooker Centre, Canongate, Oakengates, Telford.

Northeast

Balby Warpdrive.
Contact B Scales ☎ 01302 859715.
Barnard Castle Amiga Users' Club.
Contact Paul Kellett, 67 Green Lane, Barnard Castle, County Durham DL12 8LF.
Barnsley Access Amiga User Club.
Contact Mark Grimshaw, 20 Lilydene Avenue, Grimethorpe, Barnsley, South Yorkshire S72 7AA.
Barnsley Amiga Programmers' User Group
Contact Andrew Postill, 2 Selby Road, Newlodge, Barnsley, South Yorkshire S71 1TA.
Catterick Champion PD Club.
Contact Steve Pickett, 31 Somerset Close, Catterick, N Yorkshire DL9 3HE.
Chester-le-Street Chester-le-Street 16-Bit Comp. Club.
Contact Peter Mears ☎ 0191 385 2939.
Darlington Darlington Commodore Users Club.
Contact Steve Wheatley, 1 Ruby St, Darlington, Co Durham DL3 0EN.
Darlington Jemsoft North East Amiga Users.
Contact Daniel Wood, 3 Cavendish Drive, Northlands, Darlington, DL1 2GQ.
Darlington National Amiga Users Group.
Contact Membership Secretary, PO Box 151, Darlington, County Durham DL3 8YT. ☎ 01325 352260.
Durham The Amiga Club.
Contact G Starling, 31 Pine Lea, Brandon, Durham DH7 8SR.
Houghton-le-Spring Club Amiga.
Contact Chris Longley, 5 Bowes Lea, Shiney Row, Houghton Le Spring, Tyne And Wear.
Keighley Pennine Amiga Club.
Contact Neville Armstrong ☎ 01535 609263.
Mickley Nothing But AMOS Disk Magazine.
Contact Neil Wright ☎ 01661 842292.
Middlesborough South Bank Computer Club.
Contact Geoff Payne ☎ 01642 819549.
North Berwick East Lothian Amiga Group.
Contact Mr J Curry ☎ 01620 2173.
Otely Harley's PD Swaperama.
Contact G Varney ☎ 01943 466896.
Rotherham Software City.
Contact N Richards ☎ 01709 526092.
Sheffield Steel PD.
Contact James Whitehead, 33 Middle Cliffe, Drive Crowedge, Sheffield S30 5HB.
Spalding TDM.
Contact Gedney Marsh, Spalding, Lincolnshire.
Stocksfield Blitz User Group.
Contact Neil Wright, 39 Riding Dene, Mickley Square, Stocksfield, Northumberland NE43 7DL.
Sunderland '94 Amiga Club.
Contact Peter Hudson, 30 Rockingham Rd., Redhouse, Sunderland, Tyne & Wear SR5 5HU. ☎ 0191 549 1458.
Sunderland Blitter.
Contact Philip Kruman, 213 Fordfield Rd, Sunderland SR4 0HF.
Sutton-on-Sea Aden PD Club.
Contact Den Rounding, 8 Primrose Lane, Miami Beach, Trusthorpe Road, Sutton-On-Sea, Lincs LN12 2J2.
Tunstall Amiga Studio.
Contact Dave Rose ☎ 01782 815589.
Washington Mainly Amiga.
Contact Ray Scott ☎ 0191 416 9189.
Whitby WAC (Whitby AMOS Club).
Contact Paul Gumsley ☎ 01947 604840, 5 Lockton Road, Whitby, North Yorkshire YO24 3NB.

Northwest

Accrington Scotty Amiga User.
Contact Scotty ☎ 01254 399229. 12 Lancaster Drive, Clayton-Le-Moors, Accrington, Lancs. BB5 5RD.
Accrington New Hall Amiga Users Club.
Contact Bill Grundy ☎ 01254 385365.
Altrincham Extreme AMOS Diskmag.
Contact Carl Drinkwater, 9 Eldercroft Road, Timperley, Altrincham, Cheshire, WA15 7HT.
Blackburn Blackburn Amiga Users Group.
Contact Eric Hayes ☎ 01254 675625.
Blackpool Channel Z Diskmag.
Contact Darren Busby, 3 Edelston Rd, Blackpool FY1 3HN.
Fleetwood Fylde Computer Club.
Contact Colin Biss ☎ 01253 772502.
Liverpool Zantac design.

Contact Jack Rabbit, 26 Croxteth Grove, Toxteth, Liverpool, L8 0RX.

Lytham St Annes Amiga Users Group 2.
Contact Andy Wilkinson ☎ 01253 724607.

Macclesfield Computer Club.
Contact D. Latham ☎ 01625 615379, Fax: 01625 429 667. Grantham House, Macclesfield, Cheshire SK10 8NP.

Manchester V.B.S User Group.
Contact Andy Knight ☎ 0161 790 0962. 105 Whittle Street, Walkden, Worsley, Manchester M28 3WY.

Oswaldtwistle Hyndburn Amiga Users Club.
Contact Nigel Rigby ☎ 01254 395289.

Skelmersdale Computeque.
Contact Steve Lalley ☎ 01695 31378.

Stamford Under 18 Only.
Contact Joe Locker ☎ 01780 64388.

Wales

Bangor Amiga Maniacs.
Contact Johnny, 8 Tan-y-Grais, Caernarfon Rd, Bangor LL57 4SD.

Cowbridge ICPUG.
Contact Mike Bailey ☎ 01446 775287.

Neath Amiga Navigation.
Contact Dave Thomas 4a, Allister St, Neath, W Glamorgan.

Powys Blue Bedlam.
Contact Michael Grant ☎ 01873 811791.

Scotland

Angus Amiga CDTV Club.
Contact James Robertson ☎ 01356 623078, 22A High St, Brechin.

Bathgate Lothian Amiga Users Group.
Contact Andrew Mackie, 52 Birniehill Ave, Bathgate, W Lothian EH48 2RR.

Cowdenbreath Amiga FX.
Contact Ryan Dow ☎ 01383 511 258.

Bo'ness C.P.C. User Group.
Contact Alistair Lyons, 18 Braehead, Bo'ness, West Lothian, Scotland EH51 9DN.

Dundee Tay-Soft PD Club.
Contact Dave Thornton ☎ 01382 505437.

Dunfermline Dunfermline Sound & Vision Club.
Contact Stan Reed, 7 Maxton Place, Rosyth, Dunfermline, Fife KY11 2DG.

East Lothian Amiga Club (every 2nd week).
Contact Derek Scott ☎ 01620 823137, (Sat. 1–4pm). Bridge Centre, Poldrate, Haddington, East Lothian, Scotland.

Edinburgh Amiga Club.
Contact Jim Gifford ☎ 0131 658 1244, 30 Moredunvale View, Edinburgh EH17 7JT.

Edinburgh Edinburgh Amiga Club.
Contact Stephen Fradley ☎ 0131 555 1142.

Edinburgh Edinburgh Amiga Group.
Contact Neil McRea, 37 Kingsknowe Road North, Edinburgh EH14 2DE.

Glasgow Smiley's Amiga Club.
Contact Paul Ibel, 26 Cormack Avenue, Torrance, Glasgow G64 4HH.

Glasgow Amiga Helpline.
Contact Gordon Keenan, Amiga Helpline, 6 Skirsa Square, Glasgow G23.

Glasgow Teen's Amiga Club.
Contact Gordon Mackay, 26 Langmuir Road, Kirkintilloch, Nr Glasgow, G66 2QE.

Inverness Highland PD.
Contact David Paulin ☎ 01463 242431.

Johnstone Using AMOS.
Contact Colin McAllister ☎ 01505 331342.

Perth Perth and District Amateur Computer Soc.
Contact Alastair MacPherson, 137 Glasgow Rd, Perth.

Redburn Redburn Computer Users Group.
Contact Ruby Anderson ☎ 01294 313624.

W. Lothian Amiga Computer User Club.
Contact Alistair Lyons, 18 Braehead, Bo'ness, W. Lothian, Scotland EH51 9DN.

N Ireland

N Ireland N. Ireland Amiga User.
Contact Stephen Hamer, 98 Crebilly Rd, Ballymena, Co Antrim BT42 4DS.

N Ireland Digital Intensity (diskmag).
Contact Simon Denvir, 40 Old Cave Hill Rd, Belfast BT15 5GT.

Special interest

Angus Amiga Musicians Club.
Contact Gavin Wylie, Guthrie Street, Carnoustie, Angus.

Basingstoke AMOS Programmers Exchange.
Contact J Lanng, 7 Majestic Rd, Hatch Warren, Basingstoke, Hants RG22 4XD.

Braunston Fen Amiga Boatowners.
Contact D Beet Lock, Branston Fen, Lincolnshire LN3 5UN.

Braunston Nr Daventry GFA Basic Forum.
Contact J Findlay ☎ 01788 891197.

Braunston Nr Daventry Amiga E Support Group.
Contact John Findlay ☎ 01788 891197.

Broadstairs AMOS Programmer Club.
Contact Gareth Downes-Powell, 6 Brassey Avenue, Broadstairs, Kent CT10 2DS.

Bury St Edmunds Amiga Sports Fans.
Contact Jamie Last, York House, Church Road, Elmswell, Bury St Edmunds, Suffolk IP30 9DY.

Chelmsford ICPUG.
Contact David Elliott ☎ 01245 328737.

Corringham Imagine User Group.
Contact Spencer Jarvis ☎ 01375 670036; 44 Brampton Close, Corringham, Essex SS17 7NR.

Densden BBS.
Contact Dennis Luckett ☎ 01702 464818.

Dewsbury Ethos BBS.
Contact Steve Bell ☎ 01924 437258; 909 Leeds Rd., Chidswell, Dewsbury, West Yorkshire.

Durham HAG OS/2 User Group.
Contact 12 High Street, Willington, Crook, Co. Durham, DL15 OPA.

Glasgow 24-Bit Club.
Contact Gordon Keenan, 24-Bit Club, 6 Skirsa Square, Floor 1, Glasgow.

Haddington Heart of Lothian BBS
Contact Andrew Dowds ☎ 01620 826111/6004.

Highfields CDTV User Group.
Contact Gary Ogden, ☎ 01785 227059.

Huddersfield Third Dimension -3D Construction Kit Users.
Contact Tony Hartley ☎ 01484 460888; 19 Kipling Close, Lockwood, Huddersfield, West Yorkshire MD4 5HA.

Isle of White Interactive Design.
Contact David Pettifer/Matt Parsons ☎ 01983 867377 after 5pm. 22 Brook Rd., Shanklin, Isle of White PO37 7LU.

Lingfield In Touch Amiga.
Contact P. Allen, ☎ 01342 835530, PO Box 21, Lingfield, Surrey RH7 6YJ.

London (Richmond) Micro Academy.
Contact Don Pavey ☎ 0181 878 1075.

London Walton's Mountain (BBS) Virtually Amiga specific.
Contact Jimbob ☎ 0181 891 5730.

London ICPUG.
Contact the Membership Secretary. Fax 0181 651 3428. ☎ 0181 651 5436.

Lothian ICPUG.
Contact David Hope ☎ 01555 811 955.

Macclesfield ICPUG.
Contact Peter Richardson ☎ 01298 23644.

Maidenhead ICPUG.
Contact Mike Hatt ☎ 01753 645728 (8pm–10pm).

Manchester CDTV Users Club.
Contact Julian Lavanini, 113 Fouracres Rd, Newall Green, Manchester M23 8ES.

New Whittington Digital Music Club.
Contact Roger Hunt ☎ 01246 454280.

Normanton BASIC Programmers' Group.
Contact Mark Blackall ☎ 01924 892106.

Rochford Ray Tracers.
Contact Neil Hallam, 12 Meesons Mead, Rochford, Essex SS4 1RN.

Romford Phoenix Demo.
Contact Frank ☎ 0181 597 4661.

Rotherham Marksman (Trojan Phazer).
Contact David Green, 67 Thicket Drive, Maltby, Rotherham, S. Yorkshire S66 7LB.

Scotland Quadrant BBS.
Contact Chris Bruce (Sparky). ☎ 01289 331822.

Solent ICPUG.
Contact Anthony Dimmer ☎ 01705 254969.

Swindon Amiga Video Producers' Group.
Contact J Strutton ☎ 01793 870667 (–9pm).

Swindon MUG – MED Users Group.
Contact Richard Bannister, 6 Glevum Rd, Stratton St Margaret, Swindon SN3 4AF.

Taunton HSPascal User Group.
Contact T. Long, 13 Longmead Close, Taunton, Somerset TA1 4SZ.

Wallington Bible Bureau.
Contact AD ☎ 0181 669 7485.

Ware Gamer-Link.
Contact Stu, 28 Churchfield, Ware, SG12 0EP.

Workington AMOS Programmers Group.
Contact John Mullen at 62 Lonssdale St, Workington, Cumbria CA14 2YD.

Worlingham Sliver BBS. Online all cheap rates.
Contact Mat Tillet ☎ 01502 714 663, 27. Hillside Avenue, Worlingham, Beccles NR34 7AJ.

Overseas

Australia Southern Suburbs Commodore Users Group.
Contact Steve Perry, P. O. Box 217, Beverley Hills 2209, Sydney, N. S. W. Australia.

Australia Amiga Users Group of Western Australia.
Contact Bill Sharpe-Smith, PO Box 595, Cloverdale WA 6105, Australia.

Australia Comp-U-Pal.
Contact Comp-U-Pal, 116 Macarthur Street, Sale, Victoria 3850, Australia.

Belgium AUGFL vzw.
Contact Lieven Lema, Meesberg 13, 3220 Holsbeek, Belgium.

Denmark Danish AMOS User Group.
Contact Tom Poulsen, DABG, Postbox 127, 2640 Hedehusene, DK Denmark.

Egypt Pharaohs Amiga User Group.
Contact Hesham Mahmoud Wahby, Maadi, Cairo, Egypt. ☎ +351 7661 (Egypt).

France Interceptor (Public Domain Software).
Contact Interceptor, 13 Avenue Jean Jaures, 73000 Chambery, France.

France 16-32 Micro.
Contact F Moreau, 132 Rue Jean Follain, 50000 Saint-Lo, France ☎ +3152 2002.

France Maritime Amiga Club.
Contact CDR K Osei, GN Ships Refit Office, 51 Rue de la Bretonniere, 50105 Cherbourg, France. ☎ 33 3322 5447.

Germany Royal Air Force Amiga Club.
Contact Stan Young, HMF RAF Laarbruch, BFPO 43.

Germany Worldwide PD Club.
Contact Dave White, Berliner Strasse 39, 40880 Ratingen, Germany ☎ 02102 499729 (Germany).

Germany Amiga Addicts (AA).
Contact Peter Hosking, An Der Flossweise 8, 51399 Hilgen, Burscheid, Germany. ☎ 02174 64500 (Germany).

Greece Amiga Pros User Group (member GAC).
Contact Stefanos Siopoulo. ☎ 01 9349963. 52 Silvrias Str, N. Smyrni 171 23, Athens, Greece.

Greece Amiga Athens Club.
Contact Stefanos Papamichael, 9 Derfeld Rd, Patisia, 11144 Athens, Greece ☎ 01/2027973.

India Indian Amiga Friends.
Contact Bilal, 46 Paragon 405 Lokhandwaza Complex, Andheri (W), Bombay-400058, India.

Iran Palapal.
Contact Paymddn Jafari, PO Box 17845–343, Teheran, Iran, or, No. 26, 32 St., Moslem St., Abouzar Blvd., Pirouzi St., Teheran, Iran. ☎ (Iran) 021 315 3445.

Ireland Amiga Addicts.
Contact A Minnock, Clonkelly, Binn, Co Offaly, Ireland (send s.a.e.).

Ireland AMOS Users.
Contact Brian Bell, 8 Magnolia Park, Dunmurry, Belfast BT17 0DS.

Ireland City Centre Amiga Group.
Contact Patrick Chapman, 70 Ballygall Crescent, Finglas East, Dublin II, Ireland, ☎ 345035.

Ireland Commodore Users Group of Ireland.
Contact Geoffrey Reeves, c/o St Andrew's College, Booter-stown Avenue, Blackrock, Co Dublin. ☎ +353 1 288 3863.

Ireland Navan Computer Club.
Contact Mark Arnold, Cannistown, Navan, Co Meath, Eire ☎ 046 21078.

Ireland Northside Amiga Group.
Contact William Kelling, 10/A Rainsford Avenue, Dublin 8, Ireland ☎ 01 532 807.

Ireland Software Exchange Club.
Contact Michael Lacey, Fern's Post Office, Enniscorthy, Co. Wexford, Republic of Ireland.

Italy Amiga Expert Team / Uniware.
Contact Mirko Lalli, Via Vecchia Aretina 64, I-52020 Montalto, Pergine Valdarno (Arezzo), Italy. ☎ +39 575 899 798 (for Fax, voice request).

Italy Amiga Jewels.
Contact PO Box 6, 57027, San Vincenzo, Italy.

Malta HTS (Malta).
Contact K Cassar, Block 1 Flat, 6 H E Hal-Tmiem, Zejtun ZTN07 Malta ☎ +674023.

Malta Malta Amiga Club.
Contact Zappor, PO Box 39, St Julians, Malta. ☎ 440453.

Norway '94 Amiga Club Norway.
Contact Mats Lindh, Elvensveien 22, N-1666 Rolsvoey, Norway.

Portugal Centro Amiga/Via Lactea BBS.
Contact Rui Costa, 351 01 888 2245/49, Largo do Martim Moniz-C,C, Mouraria, 1 loja 408-1100 Lisbon, Portugal.

Portugal Software Asylum.
Contact Sid Sanches, Portugal ☎ 062 831566; Apartado 6156, 3000 Coimbra, Portugal.

Singapore Singapore Sling.
Contact Eric Chai ML, Block 4 #14-413, Pandan Valley, Singapore 2159, ☎ 65 4680630.

Spain Inforadio AC. (Infografia).
Contact Jose manuel, Martin Sanyos ☎ (Spain) 969 227 909. Apartado de Correos, 1036 Castellon, 12005 Spain.

Spain Amiga Aga Exchange (España).
Contact S I Steele, Calle Ribadavia, 16-8-1, Madrid, Espana 28029. In English only please.

Sweden Bitnet Amiga Group.
Contact Per Forslund, Kumla Alle 16, S-135 53, Tyresö, Sweden. ☎ +46 (0) 8 798 9793.

Sweden Amiga UserGroup Sweden.
Contact Krister Larsson, Sjönäs 6719, 546 92 Mölltorp, Sweden. E-mail: krilar.augss@mn.medstroms.se **BBS: +46 (0) 505 30965.** ☎ **+46 (0) 505 30835.**

Sweden 32-bit Ware.
Contact 32-bit Ware, Ekorrstigen 10, 147 63 Tumba, Sweden

Switzerland Amiga User Group Switzerland.
Contact AUGS ☎ ++41 34 45 3078. Bahnhofstr. 7, CH–3426 Aefligen, Switzerland. BBS: +41 (0) 62 44 32 27.

USA Japan Amiga Group.
Contact : Rick Gardaya, PSC 78, Box 3876, APO AP 96326 USA. ■

Next month you'll find the User groups on the ShopperChoice Coverdisk, along with the PD Houses. Don't worry if you still want to tell the world about your enthusiasm for the Amiga, as we are keeping the User groups form for you to fill in. The only difference is that it is moving to the Coverdisk pages.

It is Amiga Shopper's aim to list every Amiga user group in the world on these pages, so if your group is missing, please fill in and send the form below to:

User Groups,
Amiga Shopper,
30 Monmouth Street,
Bath BA1 2BW.

Shopper**User groups** AS**54**

Group Name:......................................

Contact Name:......................................

....

Contact Tel:......................................

Contact Address:......................................

....

Postcode......................................

Please Tick:

- ☐ Southeast and East
- ☐ Southwest
- ☐ Midlands
- ☐ Northeast
- ☐ North West
- ☐ Scotland
- ☐ Wales
- ☐ Special Interests
- ☐ N Ireland
- ☐ Overseas
- ☐ **New Entry**
- ☐ **Updated Entry**

Design of the times

Part 1

It may surprise you, but despite having both a Macintosh and a PC, **Larry Hickmott** *still uses Amigas for publishing books and magazines. In this, the first of six tutorials on DTP, he explains why he uses Amigas and not those other foreign machines.*

> "I experienced **enlightenment** and realised just how good the Amiga and Professional Page are."

The Amiga is number one in our office and this love, if I can call it that, is not out of sentiment for the Amiga's custom chips or its blinding graphics ability. The admiration stems from the Amiga's user friendliness and value for money. Quite honestly, it's the best option when it comes to creating a modest desktop publishing workstation. To put this in perspective and show that this isn't another of those 'lets kick the other platforms where it hurts' statements, let me explain what I do and the other tools I have at my disposal…

Publishing is my business, and here in this rather sweaty office at LH Publishing (☎ 01908 370230), we publish anything from leaflets to magazines to books. The last major book we did was the Wordworth Companion for Future Publishing and Digita International. Despite sounding rather glam, however, a job like this is not really that much more technically demanding than many of the jobs you probably undertake yourself.

Like a lot of Amiga owners, the work we do is not very high end. Most of it is black and white with some spot colour occasionally creeping in to liven things up. If we were doing catalogues for the likes of Littlewoods and so on, no doubt the machinery would be vastly different, but we don't, which means when it comes to computers we can keep it simple. This is a deliberate decision, knowing how difficult and expensive it can get when you start creating full colour publications, such as magazines like Amiga Shopper and friends.

But we don't have to use Amigas.

Behind me is a 486 PC with Aldus PageMaker and QuarkXPress on its hard drive, two of the most powerful DTP software packages available. In the other office is an Apple Macintosh, also with QuarkXPress at its disposal. Here we have two machines commonly acknowledged as being the best when it comes to DTP and yet despite being so powerful, a fact I readily acknowledge, they are not that user-friendly or cheap to set up. Here's an example of what I mean…

Jargon buster

PostScript – An industry-standard printing language, created by Adobe corporation, that enables a DTP program to describe a page to a printer. PostScript is compatible with many computers and printers.

QuarkXPress – A well known industry-leading DTP package for the Apple Macintosh and PC computer. It costs over £600, making ProPage 4.1's sale price of £49.95 seem unbelievably cheap.

Scanner – A piece of hardware that enables you to 'photocopy' an image. Instead of the picture being printed on to paper, it is imported into your Amiga so that you can use it in your word processor, paint program or DTP package.



One of the advantages I have found with the Amiga is that I can run powerful programs like Professional Page 4.1 with only 6 or 7Mb of memory. The Macintosh and PC require more than twice as much memory to be anywhere near as productive.

A worthwhile companion

In April of this year, I was asked to do the Wordworth Companion for Future Publishing. Because document creation at Future is largely QuarkXPress-based, I thought it would be helpful if I used Quark as the tool for creating this book. After about six days into designing the first chapter, I realised I'd made a mistake in choosing a PC and Quark. Not only was the program less user-friendly than the likes of Professional Page on the Amiga, it was also a pain to get along with, despite having a vast 16Mb of memory.

There was no doubting the power of QuarkXPress, but for this particular job, I

needed a more user-friendly tool. With a deadline now fast approaching and the frying pan getting steadily hotter, I moved across to use Professional Page 4.1 on the Amiga. It was at this point I experienced enlightenment and realised just how good the Amiga and Professional Page are.

Next to the PC, the Amiga appears to be very much a toy, with only half as much memory and a DTP program costing a tenth of Quark, and yet the whole process of creating this book was so much easier. This rammed home the fact that you don't need a boxed computer of any kind to make a living from publishing.

Mind you, a boxed Amiga would be very welcome and you can bet I'll be queuing for a look at the new green machines when they arrive from Escom. But let's face it – you don't really need one because a 1200 will do very nicely thanks.

Which workstation?

Now that we have established why an Amiga is easily good enough for DTP, it's time to explain why you don't need to fork out for a £2,000 machine just to produce newsletters for the ladies' auxiliary or your local football club.

Take our set up here at LH Publishing. Because we use Amigas day-in, day-out in the production of the Amiga DTP magazine Em, there is no use relying upon a single machine. If we did, and it went down (like one did the other day), we would be well and truly stuck. Instead, we decided quite rightly that we needed three Amigas. If one goes down, we still have two others to play with in the day-to-day running of the business.

Three Amiga 4000's with hard drives would have cost us between £3,000 and £6,000. Three 1200's cost us just £800. We kept a standard one back as a spare and expanded the other two. We also bought two hard drives and two memory cards which cost us another £1,000. In total we spent £1,800 on three Amigas and with the money we saved were able to afford some fancy laser printers in the process. If you take your work seriously and do need a back-up Amiga, a second 1200 is a bargain. Simply swap the RAM boards and hard drive and away you go.

I'm not saying boxed Amigas are a waste of money, but do try and spend your cash wisely. Put all your eggs in one basket and you could end up with some on your face.

The 1200's we use have 730Mb hard drives and 4Mb RAM boards. Most casual desktop publishers could get away with a hard drive half that size. The 4Mb of memory is a bare minimum for serious work like doing books, newsletters and so on. If you do a lot of colour work, then the hardware will need to be a lot more powerful to handle the extra demands that come with colour printing.

On the other end of the scale, you could get away with less than this modest set up. I know many Amiga owners producing quite good documents with little more than standard 1200s. For software they use programs like PageSetter 2 courtesy of an Amiga Format Coverdisk (AF63). Give them a nice Lottery

▶67

Five tips for creating a DTP workstation

1. Don't go all out for one workstation. Spend wisely and you may be able to afford a back-up Amiga – remember Sod's law – it gets us all in the end (usually on dead-line).

2. For most people, an Amiga 1200 will more than suffice. Save your money for a big hard drive and some memory, though.

3. If printing speed is important, try getting a PostScript printer. They now cost well under £1,000.

4. Colour scanners produce better quality pictures than monochrome scanners. A flatbed scanner is by far the easiest to use – get one if your budget permits it.

5. Ask a lot of questions when it comes to buying something you know little about. When it came to choosing a removable hard drive, I rang a lot of bureaus and DTP friends and got their views before I made up my own mind.

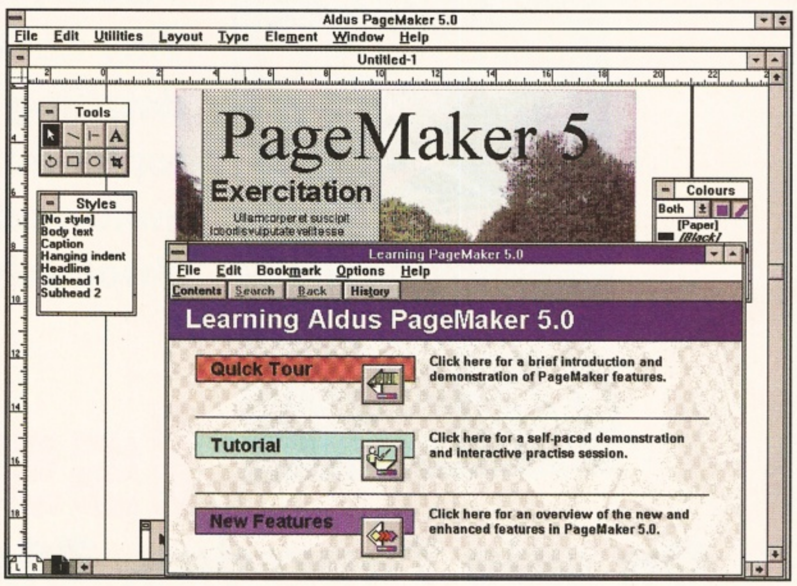
Why the Amiga?

Whether you're a hobbyist or a professional, the Amiga is one of the best choices when it comes to choosing a workstation for desktop publishing. The computers don't cost a bundle and great DTP software is also cheap (with something like Pro Page costing under £50). Best of all, though, unlike the PC, adding extra hardware to an Amiga is simplicity itself.

"Do try and spend your money **wisely**. Put all your eggs in one basket and you could end up with some on your face."



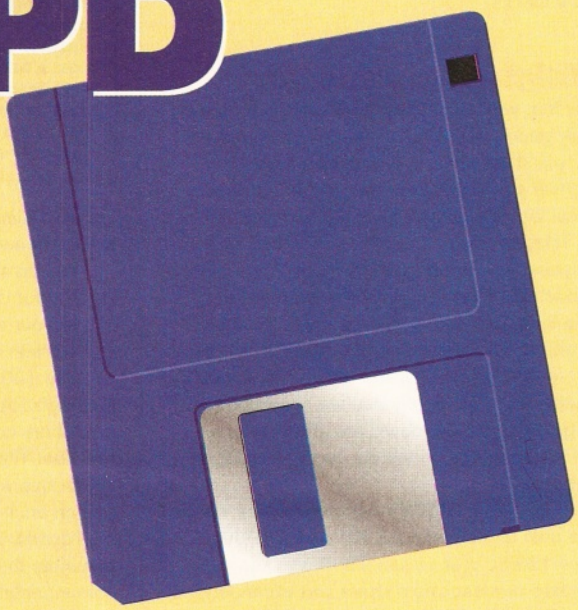
A useful addition to any workstation is a CD-ROM drive which can be used for collecting clip art and fonts as well as for dragging images off PhotoCD. These days a good double-speed CD-ROM drive costs under £200.



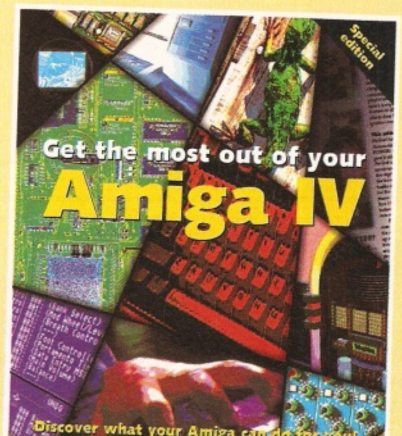
The hardware to run PageMaker cost me £1,400 and the software another £500. No wonder I prefer to use Amigas!

AMIGA FORMAT PRESENTS

Sweet PD



Next month, in the world's greatest magazine, we will be investigating the changing face of the PD-scene. With more and more PD and shareware software being released every day, how can you be sure to get what you want at a price that is fair to everyone?



AND!AND!AND!

Why not treat yourself to a 100-page book, detailing information about such diverse topics as: programming, graphics, DTP, multimedia. And the best thing is that it's absolutely free – only with *Amiga Format*.

Issue 76

On sale Thursday, 31st August

65 scoop, though, and most would add the hard drive and memory – it would give them a greater choice in the software they can use, which in turn means they can produce better documents.

Odds and ends

Having your base computer is one thing, but what do you do to get your words on to paper? A printer is one of the most popular add-ons that Amiga owners buy and making the right choice is critical. Here in our office we have three PostScript lasers and a colour inkjet. The reasons for having so many lasers is easy. Workload and speed.

One of the most often used criticisms for doing DTP on the Amiga is print speed. Sigh... If I had a dollar for everyone that's come to me and said, "The Amiga is all right but it takes so long to print..." If you're now saying, "Hey! He's talking about me," then you may have chosen the wrong type of printer. Let me explain – there are two ways you can print on the Amiga, through Printer Preferences or PostScript (see box out).

If you choose a printer that is not PostScript capable, then yes, you will find pages take an absolute age to print. It's the way the Amiga works. You can help things by fitting an accelerator to your Amiga but it will still take a while to output a page. The answer to the problem lies with PostScript. Not the complete answer, since pages with lots of pictures can still take a while to pop out, but for the majority of jobs, PostScript is definitely the way to go. Take letters to our customers, for example. Thanks to PostScript, these can be printed in seconds – not the case when we choose to use a non-PostScript printer.

In fact, the only time we resort to using a non-PostScript printer is when proofing colour work, which we do with the help of an Epson Colour Stylus. This is where a second Amiga comes in handy because it can be used to handle the non-urgent printing work which can be planned in advance. I realise however that not everyone can afford a PostScript laser and a colour inkjet, so if I had to choose the one which was most important to us, I would go for the laser every time.

In, out, shake it all about

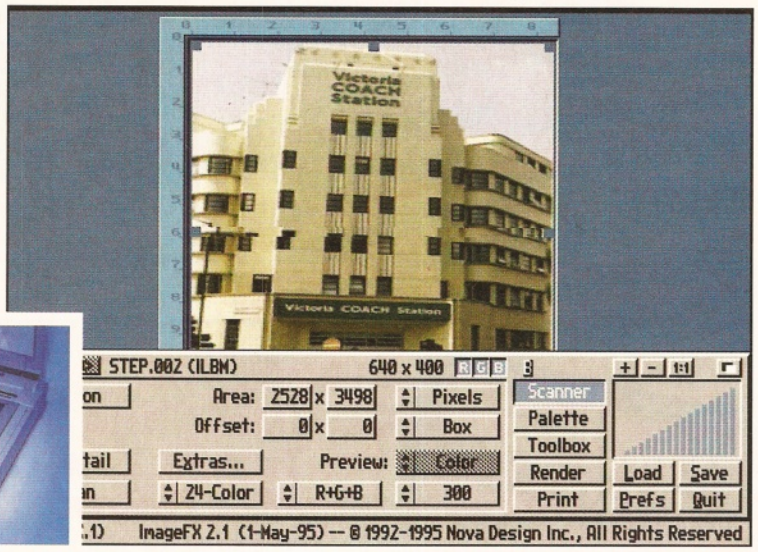
Having settled the output question, I'd also better mention input devices. These are pieces of hardware, like scanners, for importing images outside your Amiga into a DTP package. We use an old, but still very effective, Epson GT-6000 flatbed scanner. Anyone who read the Scanner Supertest in August's Amiga Shopper (AS52), will know that flatbed scanner prices are dropping, making then more accessible.

We started out with a hand scanner all those years ago, and although good value, for speed and ease of use you can't beat a flatbed. They are just so good to use. Only after suffering in the claws of a hand scanner can you appreciate just how great the flatbed is.

Of the other add-ons, the only one I would consider rating as essential is a CD-ROM drive. Ours, I'm afraid to say, is attached to a PC, although as a way of apologising for that, I do occasionally get the CDTV out and give that some air.

As you can see, a DTP workstation is not out of reach of most Amiga owners. Do remember that a second Amiga, even if it sits doing nothing most of the time, will one day save your bacon and alleviate all those hair-pulling antics when something goes screwy with your number one machine. Which just leaves the small matter of which software to run. To help you with this prickly subject, next month in part two we'll be discussing what your options are, including a look at the re-launch of ProPage 4.1 and how it compares to PageStream 3 and those heavyweight word processors like Wordworth and Final Writer. ■

Hand scanners are OK, but if you want an input device that is easy to use, permanently ready to go and produces superb results, try adding a flatbed scanner to your Amiga.

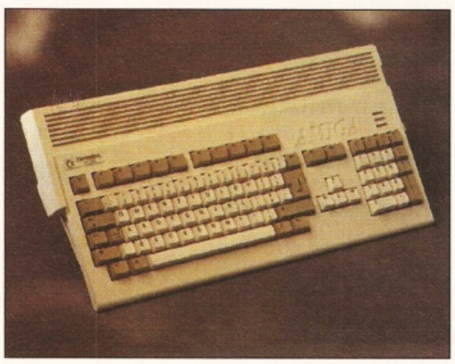




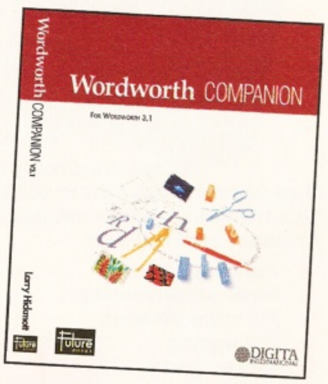
Suppliers

Scanners –	**Power Computing** ☎ **01234 273 000**
Printers –	**Gordon Harwood Computers** ☎ **01773 836 781**
Squirrel SCSI adaptor –	**HiSoft** ☎ **01525 718181**
Amiga computers –	**Amiga Technologies UK** ☎ **No contact number yet!**

"A printer is one of the most **popular** add-ons that Amiga owners buy and making the right choice is critical."



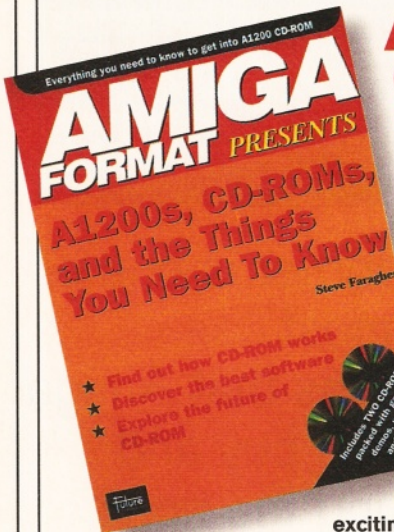
You don't need a boxed computer with loads of add-ons to get into desktop publishing. An Amiga 1200 will do very-nicely-thank-you and if lucky, you may have enough left over to buy another as a back-up.



If you want an example of what you can do with a modest DTP workstation, such as an Amiga 1200 with 7Mb of memory and a large hard drive, then take a look at the Wordworth Companion from Future Publishing, which contains in-depth explanation on every aspect of the software. The package includes a bonus disk packed with fonts and clip art, too. See page 68 for more details.

AMIGA SHOPPER BOOK offers

Top selling titles



A1200s, CD-ROMs, and the Things You Need to Know

Add a CD-ROM drive to your A1200 and you'll be able to access the ever-expanding range of Amiga CD-based software and enjoy CD32, audio CD and CDTV compatibility.

This new book tells you everything that you'll need to know about CD-ROM, how it works, the growing range of software that is available and future industry plans to exploit the full potential of this exciting new medium.

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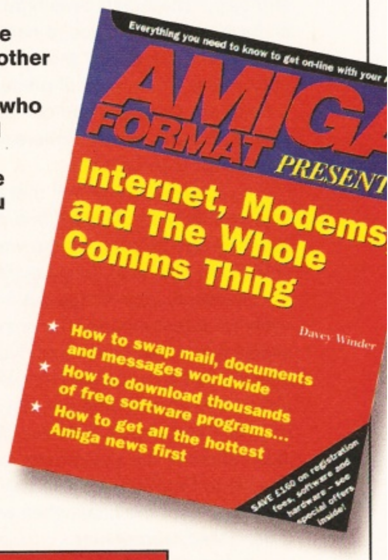
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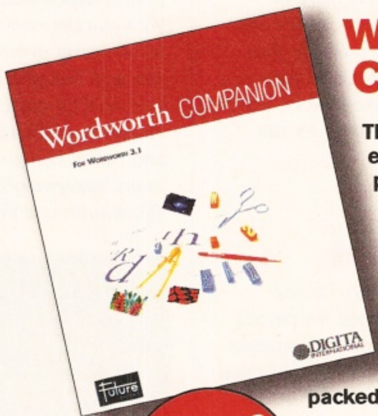
It's a powerful programming language in its own right, it lets you create time-saving automated scripts for the increasing number of commercial programs that support it. In fact, ARexx is purpose-built for multi-tasking operations just like your Amiga!

The book includes practical help and advice for beginners and authoritative reference material for experienced users.

ARexx is probably one of the Amiga's best kept secrets! Now you can learn how to use it with this NEW book! This brand-new book contains everything that you need to know to get the most out of ARexx:

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- **ARexx 'ports'**
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- **Automating tasks**
- **Full ARexx reference**

Order No	**FLB9052**
Price	**£17.95**



Wordworth Companion

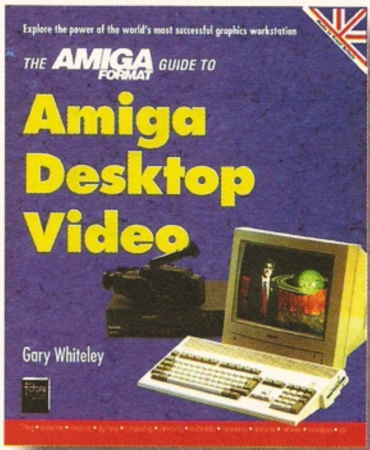
This comprehensive guide to the excellent Wordworth word processing package was written by DTP and word processing expert Larry Hickmott with the full support of Digita International.

The Wordworth Companion contains in-depth explanations on every aspect of the software and includes a bonus disk packed with fonts and clip art.

INCLUDES FREE DISK!

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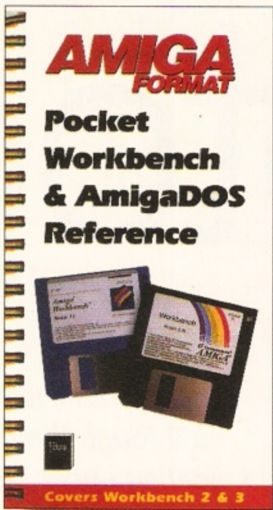
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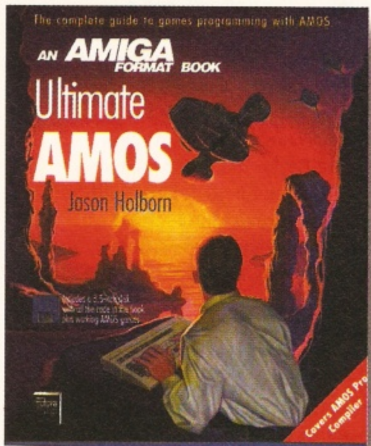
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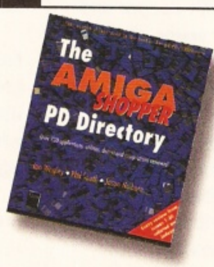
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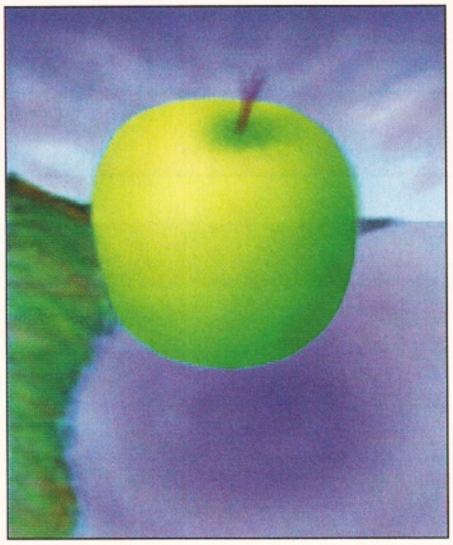
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Photogenics

Part 7

*This month **Paul Nolan**, one of the creators of Photogenics, leads us through the finer techniques of image creation, by drawing a floating apple. But is it a Granny Smith or a Golden Delicious?*



"Don't spend ages getting the brush strokes perfect, **just draw them**, it adds character!"

More tutorials

This is the last of seven tutorials where we covered most of Photogenics's features. Some of the techniques that we discuss in the tutorials listed below are equally applicable to other similar packages.

1. Alpha channels (AS48).
2. Text effects (AS49).
3. Filter effects (part 1) (AS50).
4. Filter effects (part 2) (AS51).
5. Image composition (AS52).
6. Image re-touching (AS53).
7. Drawing techniques.

For this last tutorial we shall concentrate on freehand drawing techniques. I'm going to show you how to draw shiny apples, nice skies, some land, and some sea. Don't worry if your finished picture doesn't look like mine, injecting some of your own creativity will do it the world of good. Don't spend ages getting the brush strokes perfect either, just draw them, it adds character!

I'm going to assume two things: One, you know how to use the program and don't need to be told when to fix the image, what buttons to press etc., and two, you have read the manual.

OK, let's go. To start, a blank white image is needed. I recommend you use as high a resolution as you can – the end result will look much better. As a rough guide, you want the image to take up around a third of the total amount of RAM in your Amiga – in addition to the image you'll be drawing on, you are going to need an alpha channel and an undo buffer, hence the extra memory. Maybe this would be a good time to get some more RAM!

So, with 10Mb of RAM I'll be using a 700x875 image, which is roughly the same shape as an A4 piece of paper held the same way you are reading this magazine.

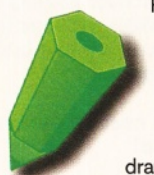
It's a good idea to think for a few minutes what size and shape you want your image to be. I've wasted many hours before discovering that a picture should have been wider/taller, or that it was too big for me to load a secondary image...

The first step is to draw the apple, I'm using the technique explained in the Airbrush/Freehand tutorial in the manual (try it before carrying on), but to show you what you can really achieve I'm using more colours this time. After you've done the rough shading of the green outline, continue shading with deeper and darker greens. I used about six or seven shades (it only took a minute), went over the highlights with a pale yellow, and added a slight hint of brown to give it a more realistic effect.

To make the apple even shinier, the contrast needs to be increased. This is generally true when drawing most shiny things, because the difference between the deep shadows and the bright glints of light are what makes the difference between a matt object and a shiny one. This could be done with the contrast paint mode, but I prefer to airbrush in white for brighter highlights, and dark grey or black for darker shadows.

The next step is to draw the sky. First, invert the alpha channel. You can now scribble on the sky without worrying about getting paint on the apple. Draw a pale blue rectangle over the bit you want to be the sky (if you want to be really weird try putting this at the bottom), and a slightly darker rectangle below for the sea. Now using a top to bottom transparency gradient, go over the sky with a richer blue to make the sky fade nicely. Switch to the Watercolour brush, set it to one per cent pressure and make it quite large (this was about 50 for me, you'll have to experiment to find the best for you). Now with white paint gently rub in some cloud tops. I found that for this drawing they looked best if you angled the clouds away from the centre of the picture – this gave it a much more dynamic feel. Now using a darker shade, like purple, add very faint shadows to the bottom of the clouds.

The next step is to roughly draw in the land. I used a large low-pressure Chalk Pastel for this, if your image is very small you may want to use Pencil. Very roughly shade in the land, making your brush follow its contours. When adding different colours to this they will catch on what you have already put down, and create a nice texture.



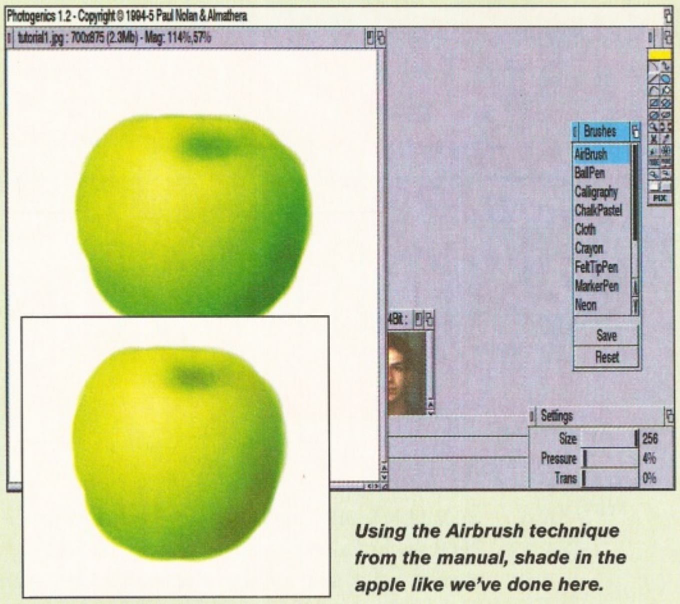
Once you have the land roughly drawn in, switch back to the large Airbrush and start adding some shading to the sea. You can see I've added a dark blue shadow under the apple, but I've also quickly gone over parts of the sea with different shades of blue to give the impression of some waves. Switch to Watercolour and gently draw some curved lines in dark blue paint. This gives the impression that the apple is creating an effect on the water. Then add some highlights to make the ripples look more convincing.

Finally, switch back to chalk pastel and finish off the land with some more shades of green, brown and grey. If you do the ground before the sea you tend to find it looks 'wrong' when you finish the sea, and you end up doing it again. Oh, and don't forget the apple stalk!

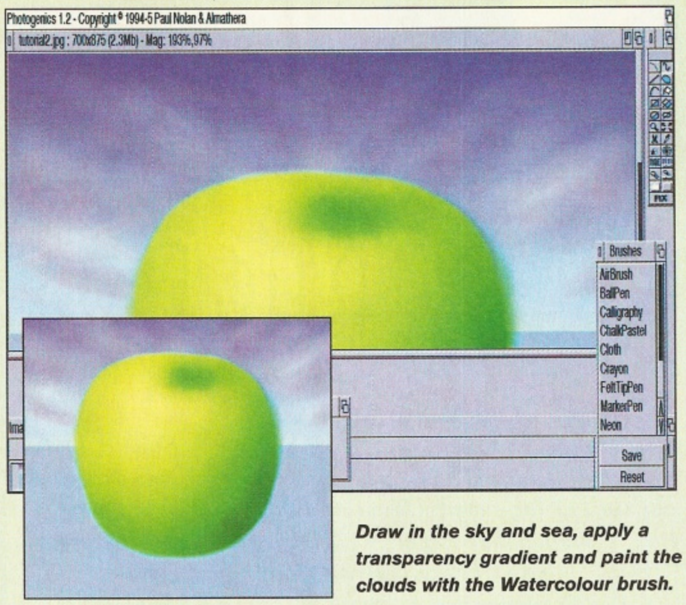
Hope you had fun, and that you progress to more exciting things than apples in mid-air!

Bye for now! If you want to E-mail me, its pnolan@cix.compulink.co.uk. For technical support E-mail jralph@cix.compulink.co.uk. ■

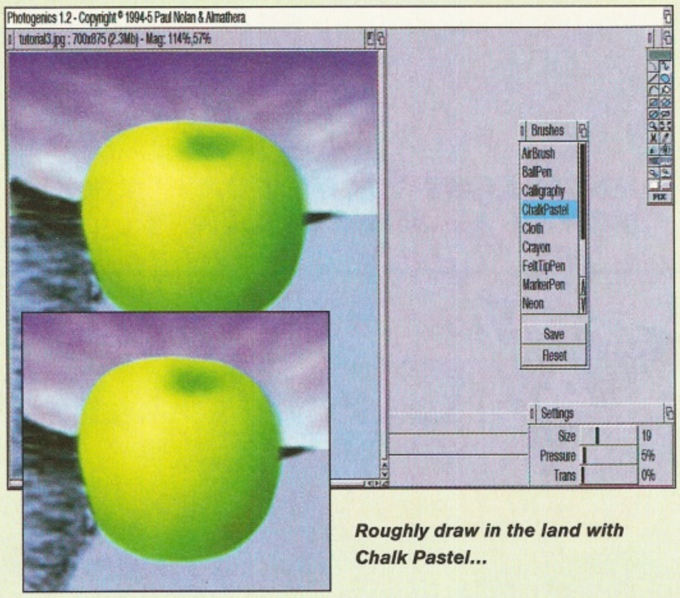
Fine-tuning your images



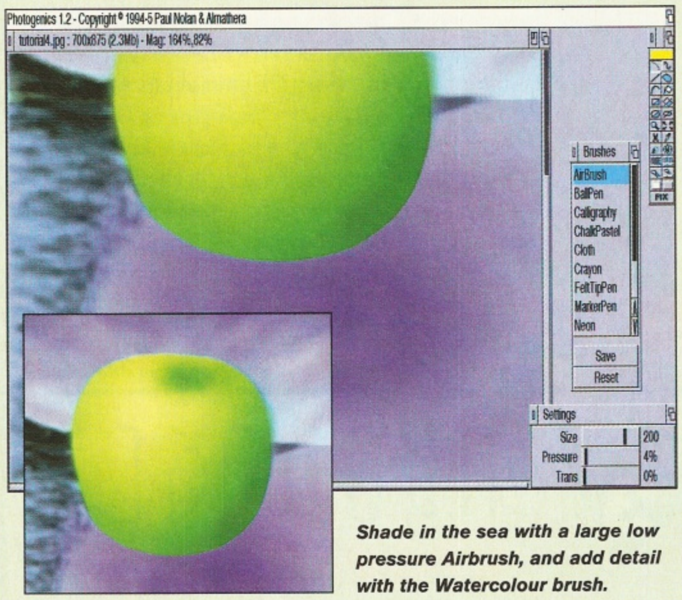
Using the Airbrush technique from the manual, shade in the apple like we've done here.



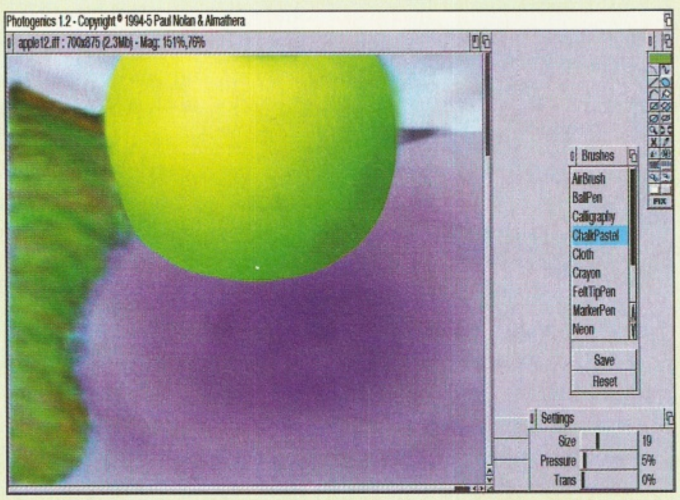
Draw in the sky and sea, apply a transparency gradient and paint the clouds with the Watercolour brush.



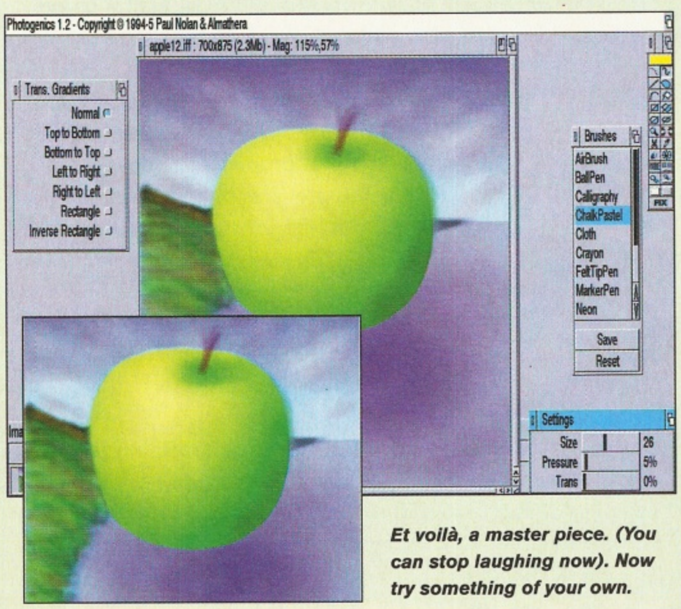
Roughly draw in the land with Chalk Pastel...



Shade in the sea with a large low pressure Airbrush, and add detail with the Watercolour brush.



Go over the land again with Chalk Pastel, using lots of different colours to add depth to the picture. Don't forget to add the apple stalk!



Et voilà, a master piece. (You can stop laughing now). Now try something of your own.



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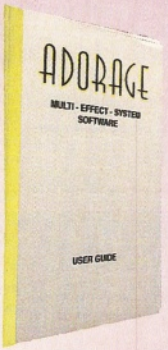


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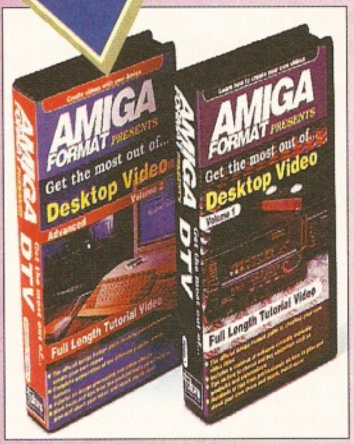


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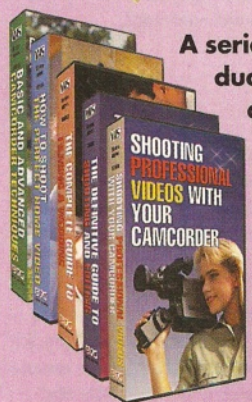
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Internet serving

Part 2

If you want to use your Amiga to become part of the World Wide Web, **Darren Irvine** *is your man. This month he talks about creating your own Web pages, and the mysterious HTML.*

Last month we saw how your Amiga could be set up to offer both FTP and Telnet services, allowing other Internet users to retrieve files from your machine or to log on and run software. The next logical step is to provide a World Wide Web service running on your Amiga.

More Daemons

Just as getting FTP and Telnet up and running required the use of specific Daemons (FTPd and Telnetd respectively) so the Web also requires a Daemon set-up to handle transfer of Web pages from your Amiga. This Daemon is called HTTPd because it handles transfers of what is known as HyperText Transfer Protocol, or HTTP. There are different kinds of HTTPd for the Amiga, but one of the most stable is available from the developers of AMosaic itself. Get hold of the archive by anonymous FTP from this address:

```
ftp:    max.physics.sunysb.edu
path:   /pub/amiga/amosaic/httpd.lha
```

Installing the HTTPd Daemon requires only two steps. Once you have downloaded the archive, create a directory beneath your current AMosaic directory called 'HTTPD' and unarchive the file into it. You should also set up a similarly named assignment 'HTTP:' to point to this new directory – it's probably a good idea to add this assignment to your s:user-startup file.

Secondly, you must add a configuration line to the SERVICES file in the directory AMITCP:DB. Add a line at the bottom of this file in the following format:

```
http            80/tcp
```

It may also be necessary for you to add a line to the file INETD.CONF in the same directory as follows:

```
http stream tcp nowait root http:httpd
```

List markers

On Tag	Description	Off Tag
	Unordered List	
	Ordered List	
	List Item	

Setting up Web pages

You can now start or restart AmiTCP and be ready to try out the service. To avoid running up a ridiculous phone bill (well, at least during testing), you can try out your own system off-line. Run AMosaic, and open the following URL:

```
http://localhost/
```

The screen you will see is the visual equivalent of the HTML source code found in the file 'INDEX.HTML' which is located in the 'DOCS' directory below HTTP:. From here you can use the links which connect documents stored on your own machine. When you're finally connected to the Internet, other users will be able to access your pages by using a URL composed from your normal Internet Domain name. For instance, my Domain is:

```
plasma.thegap.com
```

and so the URL needed to access my Web pages is:

```
http://plasma.thegap.com/
```

Unless you explicitly specify a filename as part of this URL, the default file used will be HTTP:DOCS/INDEX.HTML.

The rest of this month's tutorial will be a guide to putting your own pages on the Web and getting started with HTML. To keep things simple, it's probably best to create a test file for your first steps in HTML, which can be merged into your own version of INDEX.HTML later.

Starting with HTML

HTML documents themselves are plain ASCII text, and so can be created using any text editor. An HTML document contains special HTML formatting codes known as 'tags'. These tags are used by the Web browser to determine things like the font text appears in, and for including links to other pages and graphics files.

Graphics can be included in HTML in two different ways – 'Inline' and 'Non Inline'. Inline images are things like Title pictures and buttons and themselves may be links to other documents – if this is the case then they will usually have a coloured line drawn around them. Non Inline images are picture files which you specifically request to download and usually appear from 'Click to Download' buttons. Although recently there has been a move to using JPEG files for Inline images, some browsers are not up to handling them (such as AMosiac version 1.3 and earlier) so for now it's probably best to stick to using GIF images for adding graphics to your Web pages.

Creating a new page

Using a text editor, create a file in your http:docs directory called 'TEST.HTML', and put the following text into it (note that you must include the angle-brackets around each tag):

```
<html>
Web Page Test
</html>
```

Notice the second tag has a slash before the text, inside the angle brackets. This denotes the end of a tag section. Save this page and open the following URL using AMosaic:

```
http://localhost/test.html
```

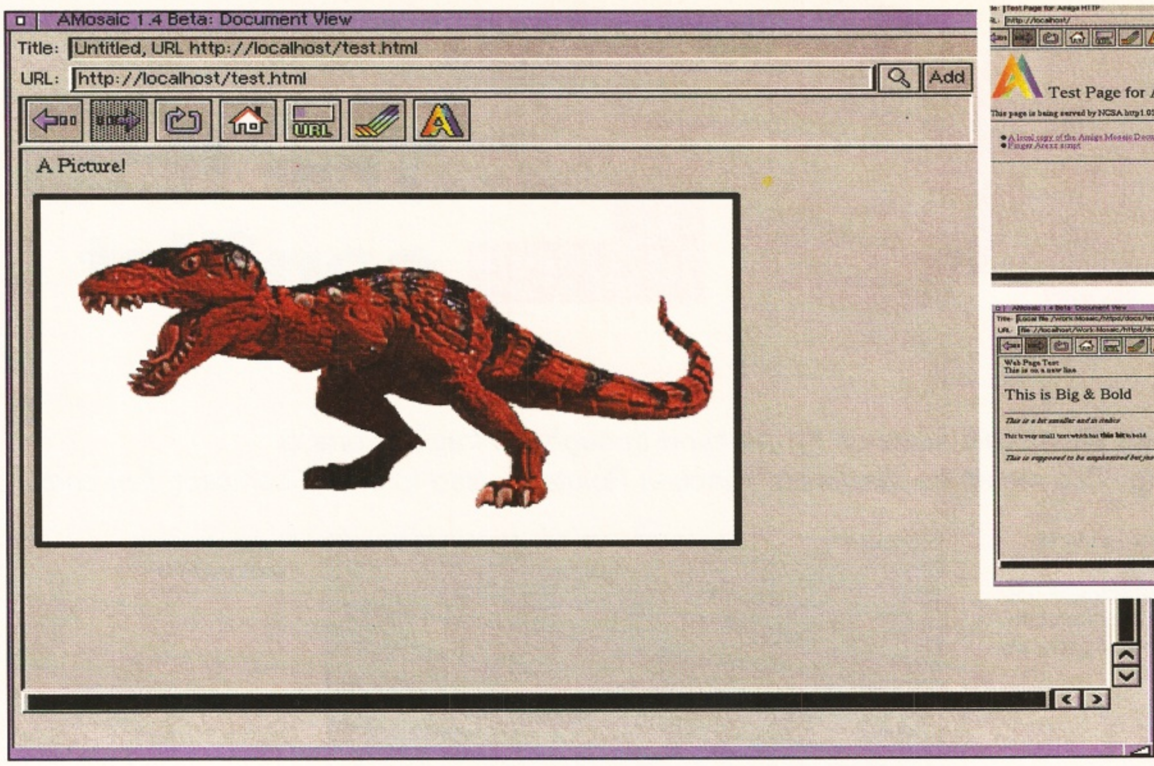
Next, try to add a bit more text to your test page. When you want to specify that text should be on a new line, include the tag '
' – simply putting the text on a newline in the HTML file won't do. If you want to leave a blank line, use the '<p>' tag. Type the following text in

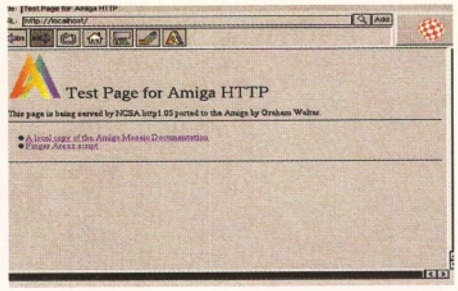
Jargon busting

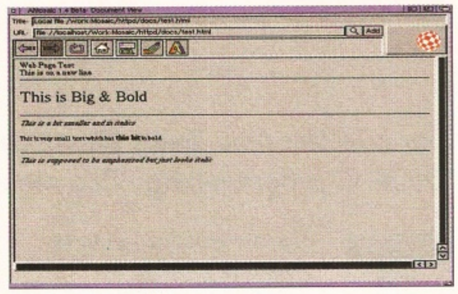
HTML – HyperText Markup Language. The language used to specify the content and format of individual Web pages.

HTTP – HyperText Transfer Protocol. The mechanism used to pass HTML Web pages across the Internet.

URL – Uniform Resource Locator. Any file on the Internet can be identified by its URL. The first part specifies the transfer protocol needed to access the resource (for example ftp or http). The second part is the Internet address where the file can be found. The final part is the directory in which the file lies, plus the actual filename itself. Thus a HyperText file '`test.html`**' in the directory '**`/pub/internet`**' on the server '**`plasma.thegap.com`**' would have the URL:** `http://plasma.thegap.com/pub/internet/test.html`







Top: The inital HTML page. Above: Some experiments with text styles. Left: Adding GIF images can really make a difference to your pages.

TEST.HTML to see how these code tags work within your pages:

```
<html>
Web Page Test<br>
This is on a new line
</html>
```

Text styles

HTML provides lots of scope for changing the way text is displayed. Each tag has an equivalent preceded by a slash which turns the option off. (See the Style markers box out.)

Change TEST.HTML to contain the following:

```
<html>
Web Page Test<br>
This is on a new line
<hr>
<b><h1>This is Big & Bold</h1></b>
<hr>
<i>This is a bit smaller and in
italics</i>
<p>
<h6>This is very small text which has
<b>this bit</b> in bold</h6>
<hr>Z
<em>This is supposed to be emphasised but
just looks italic</em>
</html>
```

Note that AMosaic doesn't handle some tags such as properly.

Style markers

On Tag	Description	Off Tag
<h1>	Very large text	</h1>
<h2>	Large text	</h2>
<h3>	Medium text	</h3>
<h4>	Medium-small text	</h4>
<h5>	Small text	</h5>
<h6>	Very small text	</h6>
	Bold	
<i>	Italic	</i>
<u>	Underlined	</u>
<tt>	Typewriter font	</tt>
	Emphasis	
	More emphasis	
<pre>	Don't format	</pre>
<hr>	Insert horizontal line	
 	Line break	
<p>	Skip line	

HTML lists

Browsing the Web, you'll notice that a lot of the information contained on pages is in the form of lists. That's because setting up lists is something HTML is very handy for. Nice little features such as bulleting and multiple-indented lists are handled with ease. See the List markers box out for the main list formatting tags.

Try adding some indented lists by changing TEST.HTML to look like:

```
<html>
This is a List test
<hr>
List Level 1
<ul>
<li> Item 1.1
<li> Item 1.2
    <ul>
    <li> Item 1.2.1
    <li> Item 1.2.2
    </ul>
<li> Item 1.3
    <ul>
    <li> Item 1.3.1
    <li> Item 1.3.2
    <li> Item 1.3.3
        <ul>
        <li> Item 1.3.3.1
        <li> Item 1.3.3.2
        </ul>
    </ul>
</ul>
</html>
```

When you see your test page, note the different bullet styles for each level of list indentation.

The indenting in these examples is only for the sake of clarity, and is actually ignored by HTML – the displayed results would be the same without it. In case you were wondering what the difference between an ordered list and an unordered list was, try changing all the '
' tags to '
' and all the '
' to '
'. The list items become numbered for you, making the text of the example list items a bit superfluous.

Images

You've probably been wondering when I was going to get around to putting pictures on to your Web pages, since this is what makes the Web special after all. That time is now. Hurrah! Even small images can make a big difference to the overall look and feel of a Web page, so it's time to say hello to the '<img>' HTML tag.

To add graphics to your pages, you first need to have some image files in GIF format. Try to make these a reasonable size, because although they'll display quite quickly for you, large graphics files take a long time to download for other Internet users. You can use files that are located anywhere on your hard drive, by specifying the full path and filename, but it's probably best to put them together with the HTML source code itself i.e. in HTTP:DOCS.

If, for example, the graphics file that you want to include on your page is called TEST1.GIF, try putting the following HTML code in TEST.HTML:

```
<html>
A Picture! <p>
<img src="test1.gif">
</html>
```

The results will obviously be different from ours, depending on what your GIF file is.

Next month we'll take a look at what is perhaps the most important aspect of HTML – adding links to other pages. We'll also cover some of the tricks you can use to make your pages look really special. ■

DICE

The final conflict

For one last time **Toby Simpson** *leads us by the hand through the fragile world of DICE C programming. This month he discusses Function Pointers, used to create compact, fast code.*

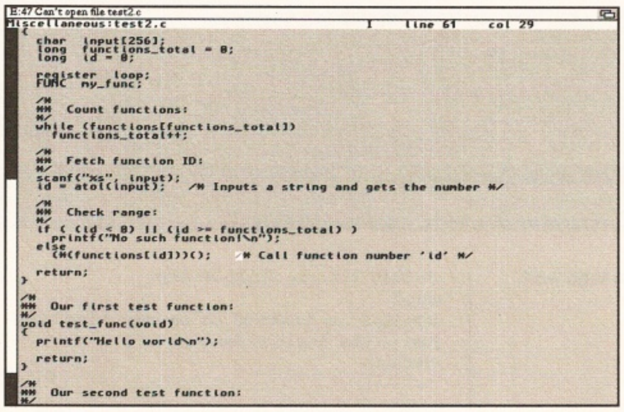
This month we're going to examine a handy C programming technique not introduced before: Function Pointers; that is, surprisingly, pointers to Functions!

Function Pointers

Function Pointers are an amazingly useful device for C programmers. They are what they sound like – pointers to Functions. You can place pointers to Functions in look-up tables, allowing for quick decisions and eliminating the need for complex `switch()` statement structures. Not only is your code smaller and faster, but the result is flexible.

Call-backs, as they are sometimes known, specify when to call a Function. They appear either as an argument to a Function or as a Function pointer within a structure. The call-back can then call your Function when needed.

I know it sounds confusing, but imagine this: You've generated a program where at certain times Functions should be called. The exact time and Function varies. To do this, you set up a whole bunch of timers. When the timers expire, you use `switch()` to process the type and call the appropriate Function. Every single time you add a new Function which is called, you have to laboriously edit the switch statement block. Not only is this easy to mess up, it is unnecessary. If you were to place the pointer to the Function to be called inside the timer structure, then when the timer expires, it already knows exactly what to call. Meaning there's no need to `switch`.



Playing about with Function Pointers.

What's it all about?

So, how does it work? Well, C has given us a blissfully complex and mysterious syntax for it all, which is not only difficult to get into a form which will compile, but is also painfully hard to remember. The listing for this month (see Listing box out) is also on the Coverdisk. There is some definite new stuff here. Take a look at this:

```
typedef void (*FUNC)(void); /* Type
definition for function pointer */
```

This creates a new C type (`int`, `long` and `char` are also types) called `FUNC`. `FUNC` is a pointer to a Function. The Function in question takes no arguments (the second void) and returns nothing (the first void). If you like you can change this for your own applications. If we want to use a `FUNC`, we define it like we would any other variable:

```
FUNC my_func;
```

This declares a Function Pointer called `my_func`. So long as we then have Functions in our C source code which follow the prototype:

```
void function_name(void);
```

...then we can point our Function Pointer to it with a simple variable assignment:

```
my_func = function_name;
```

Now for the tough, complex, weird-looking bit. We are now able to call this Function. Although

A brief history of C

The C language emerged in the early '70s on UNIX platforms. It was designed as a general purpose language which would compile well and was computer-, rather than human-, friendly. It is loosely based on the BCPL language in which AmigaDOS was written. Interest in C spread rapidly, and numerous versions sprung up. The defined 'standard' was a book by Brian Kernighan and Dennis Ritchie, the creators of C – hence compilers being 'K&R compliant', K and R standing for Kernighan and Ritchie. The American National Standards Institute (ANSI) set and ANSI C standard in the late '80s. This rapidly became the international standard, and all currently supported C compilers are ANSI-compliant.

In theory, a program written entirely using the information in the ANSI edition of the K&R C programming book will work on any other compiler, regardless of machine. Unfortunately, life isn't quite so straightforward. Machines have different operating systems, and as soon as you start using them, you lose any compatibility. The GNU (Gnot Unix) suite of programs is a true testament to good ANSI C programming. GNU programs (which are freely distributable) will compile and run on virtually any platform around, with the minimum of alteration. This has given the Amiga access to a whole host of useful tools, including C compilers! Most C programmers have heard of GNU C/C++.

Times move on, and programming techniques change. Sequential procedural languages such as C have been overshadowed by the all-new, improved object-orientated approach. Instead of dealing with programs made up of a mess of data structures, functions, and program code stringing it all together, programs become collections of encapsulated objects, each object knowing how to deal with itself. The ability to inherit the capabilities of another object allow massively powerful programs. The technique for programming object-orientated languages is frighteningly different to that learned for Assembler, C, Pascal, or BASIC, for example.

Although alarming at first, it is definitely here to stay, having taken its roots on machines like the PC as the easiest and best way of programming under Microsoft Windows! In a future special edition of this C programming tutorial, we'll explain OOPS (Object Orientated Programming).

the next line looks odd, it actually makes sense when followed through:

```
(*my_func)();
```

This actually calls the Function. We could have called it like this:

```
function_name();
```

Note the similarities. The only difference between the two is that the actual Function name itself is replaced with a `(*my_func)` – other than that, the syntax is identical.

The uses of this are extensive. We can create an array of Function Pointers and then access any one using an indexing variable in the array. In the listing, we have two Functions. They are called `test_func` and `test_func2`. We create an array of them like this:

```
/* An array of function pointers (NULL
terminated) */
FUNC functions[] = { test_func,
test_func2, NULL };
```

I terminate the array with a `NULL`, so that any routine scanning the list knows when it has checked them all. To call the first one in the array, we can do this:

```
(*(functions[0]))();
```

Instead of using our `my_func` variable, we're now accessing our array directly. We could call the next one in the list simply by replacing the `0` with a `1`, and so on. If you have not already guessed, the power comes from the fact that the number can be a variable. Take this example, which actually allows you to enter a Function number from the keyboard and then calls it:

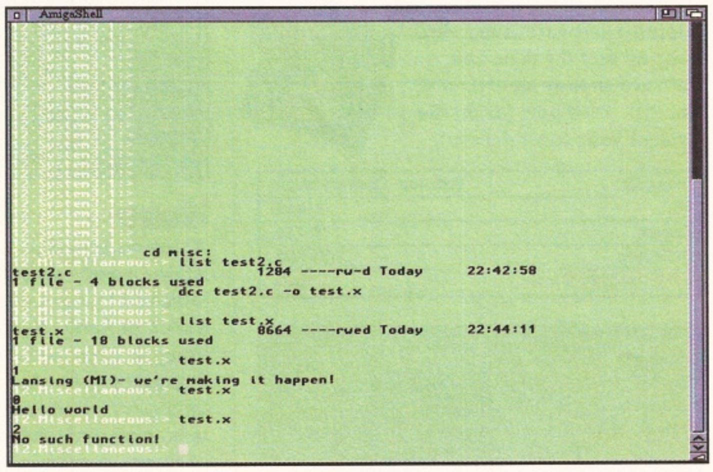
```
char input[256]; long functions_total = 0;
long id = 0; /*Count functions:*/
while (functions[functions_total])
functions_total++; /*Fetch function ID*/
scanf("%s", input); id = atol(input);
/*Inputs a string and gets the number*/
/*Check range:*/
if ((id < 0) || (id >= functions_total))
printf("No such function!\n");
else (*(functions[id]))(); /*Call function
number 'id'*/
```

By taking advantage of our `NULL` at the end of the list, we have the luxury of first counting the total available choices to avoid the user entering an invalid Function ID. If this actually was allowed, (remove the three lines starting `if` and ending `else` and enter a large number) your computer is likely to crash – if you're lucky then with just a simple program failed window.

Listing: Function Pointers example

```
/* Amiga shopper function pointers .
example. By Toby Simpson. This will work
under any C compiler. To compile under
DICE: dcc functions.c -o functions.x …
and run with "functions.x".*/

#include <stdio.h>
/* The one include file we need */
#define NULL 0L typedef void
(*FUNC)(void);
/*Type definition for function pointer*/
/*Function prototypes:*/
void test_func(void); void
test_func2(void);
/*An array of function pointers (NULL
terminated)*/
FUNC functions[] = { test_func,
test_func2, NULL   };
/*Main program code:*/
void main(void) { register loop; FUNC
my_func;
/*Call a test function (The first
one):*/  printf("\nAbout to call a
function\n"); my_func = test_func;
(*my_func)();
/*This bit actually calls it*/
/*Now call any functions we have in our
look up table:*/
printf("\nAbout to call all of them\n");
loop = 0; while (functions[loop])
(*(functions[loop++]))();
/*Call function number 'loop'*/
return; }
/*Our first test function:*/
void test_func(void) { printf("Hello
world\n"); return; }
/*Our second test function:*/
void test_func2(void) { printf("Lansing
(MI)- we're making it happen!\n");
return; } [end]
```



The test program, allowing us to enter the number of the functions we wish to call.

The listing is good code since it is easily extendible. We can add new Functions to the list and not worry about any other code, and our routine will still work fine regardless of how many Functions we pile in – we don't have to worry about lots of niggly little updates and changes which may be required. Without the long `switch()` statements, our code is smaller, neater and faster.

One final goodie for those of you who are still awake. You may have noticed that in the listing I declared the variable `loop` like this:

```
register loop;
```

This declares a variable of type `long` and asks the compiler to try and use an internal CPU register instead of a memory location. This helps with loop counters, as it is one less memory access (the slow bit) while running the program.

OK, so why don't we make *all* `long`s and `int`s of type `register`? Well, the 68000 has a limited supply, and a whole load tend to be used by the compiled code for its other stuff. Most compilers are able to set aside a couple of registers for this type of usage, but if you try and declare more registers than there are, the compiler will start using memory locations automatically. To be honest, most modern compilers will make this sort of code optimisation by themselves, but I've got into the habit of it!

Well, that's it. Over the past year or so we've covered the C programming language right from our tender "Hello world" start. As the Amiga market entered its bad patch and SAS left us, we moved on to new versions of DICE. In coming issues, we'll do some special articles on unique subjects in C, such as object-orientated programming. The good news is that to start using those advanced techniques, you don't even need C++.

If there is anything you would particularly like covered, drop me a line at the usual Amiga Shopper address, or E-mail the editor at: sgrant@futurenet.co.uk
and we'll see what we can whip up. ■

What's on the Coverdisk, and where to get DICE



On the ShopperChoice disk this month are all the promised listings from last month, including the BASIC interpreter, as well as this month's Function listings.

We gave away a special, cut-down version of DICE 3 on the March AS Coverdisk. It has the following limitations:

- **You can't use bitfields or floating point.**
- **The maximum executable program size is 40K.**
- **Each source file can only have up to four functions in it.**
- **You can't use this version of DICE to generate commercial applications, or for work purposes. It is for private, home usage by Amiga Shopper readers only.**

If you want to get hold of the entire product, plus a 450-page manual, at a fantastic *£30 off the retail price*, then turn to Amiga Shopper mail order on page 78.

You can also get DICE from Fourth Level Developments, 31 Ashley Hill, Montpelier, Bristol BS6 5JA. Tel: 0117 955 8225.

You'll need a full version to make use of the revision control system and, also, without it you are limited to four functions per file, which could result in some cut 'n' pasting with the Finder application!

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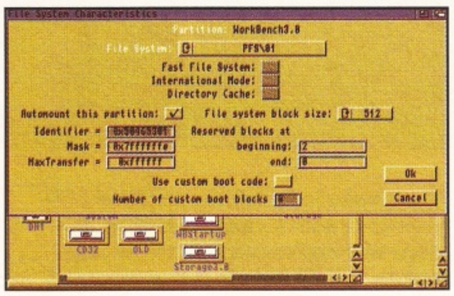
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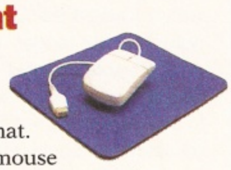


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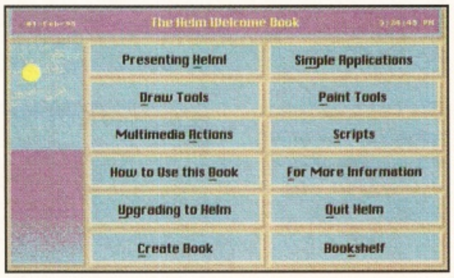
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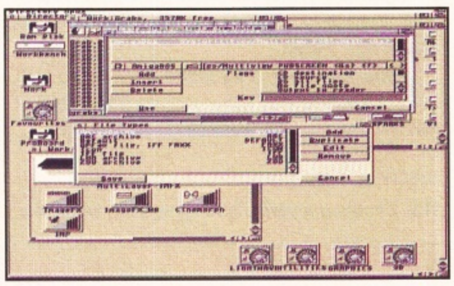
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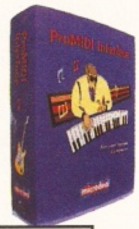


Directory Opus 5

This latest incarnation of the superbly powerful and well-designed file manager received 92 per cent and an Amiga Shopper Star buy award in issue 51 (see page 81 for back issue offers if you missed it). Directory Opus 4 was brilliant and version 5 is no exception. Now this excellent program can be yours for £10 less than the RRP of £59.99.

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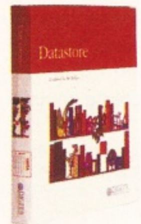


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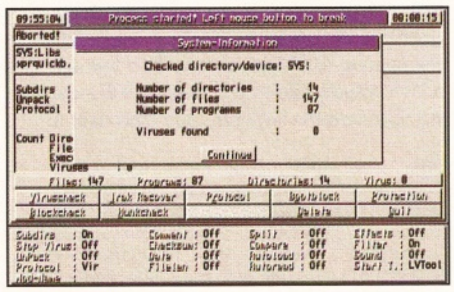
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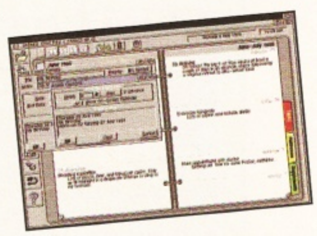


Antivirus

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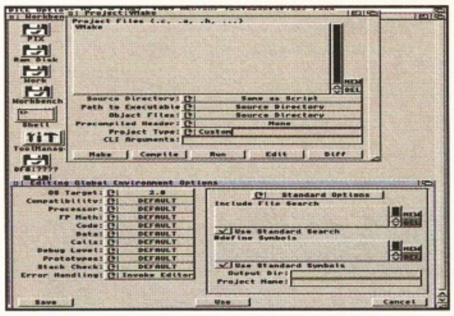
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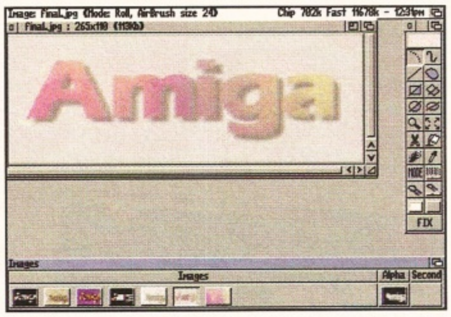


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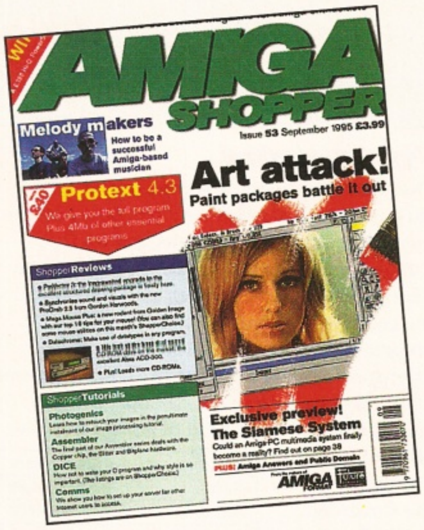
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Public Domain

***Jason Holborn** gets stuck into another batch of public domain disks, stuffed with everything from screen savers and replacement disk-filing systems to a set of new Preference editors.*

Lottery mania hits the PD pages this month, with two programs to help you fatten your income. On the more serious side, we have file replacement utilities, a system sound enhancer, and lots more. Enjoy!

DesktopMAGIC

Cynostic PD disk U1112

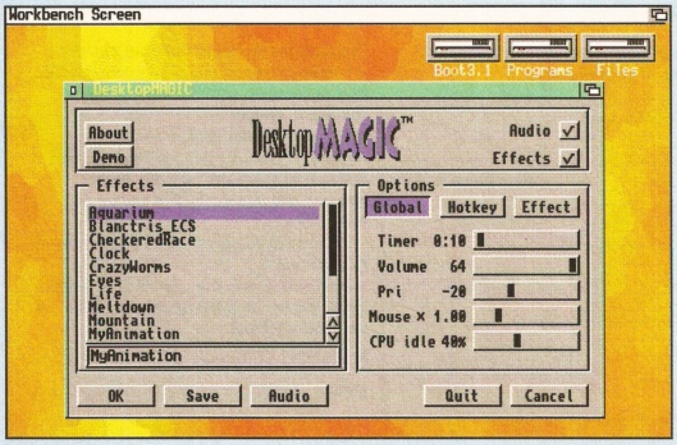
It's official – leaving your Amiga switched on and alone for more than a couple of hours can seriously damage its health. Well, its monitor's health anyway. You see, monitors can be damaged if you keep the same image on the screen for long periods of time. The ray that creates a picture burns a permanent image into the phosphor, creating a 'ghost'. For a working example go and examine your local cashpoint machine – guaranteed to terrify you into action. The answer, of course, lies in screen savers – those wonderful little programs that do little but save you having to splash out on a new monitor. Oh, and they look cute.

One of the best PD screen savers has to be DesktopMAGIC, the Shareware version of HiSoft's MaxonMAGIC which it sells for £29.95. Like its commercial counterpart, DesktopMAGIC is a modular screensaver – which means you can quickly and easily add additional screen saver 'effects' at a later date and even write your own. In theory, anyway. By default, the package comes complete with 32 animated modules which can be accompanied by both sampled sounds and a maximum of eight tracks of music.

The range of screen saver modules on offer is mightily impressive. As well as the usual colourful lines and flying toasters, DesktopMAGIC also offers such pleasing saver effects as an aquarium, a computer-controlled Tetris clone (the Amiga plays itself), fireworks, fractals, a cockroach infestation and even a desktop melt-down that melts your Workbench.

But wait! Not only is DesktopMAGIC a screen saver, it also doubles as a system sound enhancer. A what? Well, it enables you to assign sound samples to system events. So, when you format a disk your Amiga could belch, or a fanfare could play when a window opens. Even if you don't need a screen saver, DesktopMAGIC is worth it just for the fun value of being able to assign silly sounds to your Amiga to give it that little bit of extra character. Destined to become a PD classic.

Rating 90%



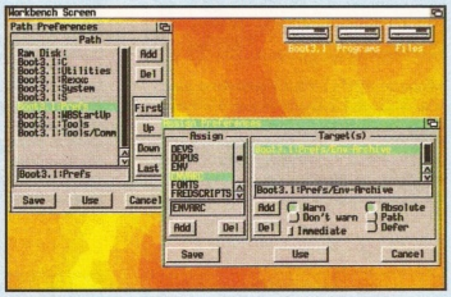
Protecting from phosphor burn-in isn't the only reason to have a screen saver – it can add a bit of spice to your Amiga's life too, as Cynostic PD's DesktopMAGIC shows.

Scribble Utils 12

Scribble PD disk U370

Scribble's latest collection contains a selection of utilities that cover a wide range of applications including backing up your hard disk, maintaining your paths and assignments, examining the inner-most depths of your Amiga and much more besides.

ABackUp – This is generally regarded as the best PD hard disk backup utility around, enables you to make a back-up of the contents of your hard drive to a set of floppy disks. It fully supports XPK compression libraries, can handle non-AmigaDOS partitions and high density floppy disks and boasts a fully Workbench 2.0-compliant Intuition-based front end. No hard drive should have to live without ABackUp.



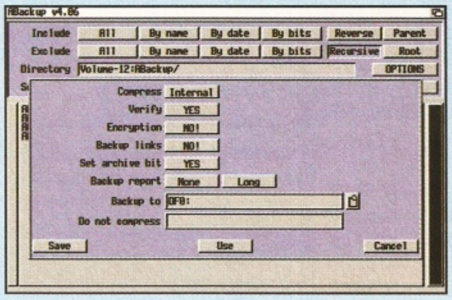
Keep your assignments and paths under control with the two new Workbench Preference editors on Scribble PD's utility collection.

- **AddPower –** A utility for users of Workbench 2.0-based Amigas, AddPower adds to the Operating System a number of small features which enable you to take full advantage of the improvements provided by Workbench 2.0 and 3.0 – adding new powers to DOS, enhancing the look and feel of Workbench screens and menus and so on.
- **Assigns 1.1 –** This is a Preference editor that plugs a hole left by the Amiga's own Preferences system. When your Amiga first boots it kicks in and provides a quick and easy method of editing your system assignments. You can switch off existing assignments before they are assigned and add new ones with ease.
- **Paths 1.0 –** Programmed by the author of Assigns 1.1, Paths is another Preferences editor which is designed to complement those already provided with the Amiga Workbench. Instead of working with assignments, however, Paths lets you maintain your system paths. Like Assigns, you can switch assignments on and off, and add new ones.
- **S-Pic –** Having a gallery of picture files on a single disk is all fine and dandy but they're not a lot of use unless you load them into either a paint program or a picture viewing utility. That is, of course, unless you first run them through S-Pic. It enables you to convert your picture files to self-displaying pictures, where you can view them by 'running' them in the same way as you

would a program. This does inevitably mean that they can no longer be loaded into a paint program but hey, give the software a break – you can't have your cake and eat it!

● **SwazInfo –** This is a utility that replaces the Workbench's own Information window whilst retaining the functionality of the original. As you'd expect, though, SwazInfo has a few tricks of its own which it adds to Commodore's offering. These include the ability to display information on any file simply by dropping its icon on to the program's AppWindow, full Commodities support, ARexx control and so on.

● **SysInfo –** Surely every Amiga user has heard of Nic Wilson's SysInfo utility? A program that details every aspect of your Amiga system – the type of processor and custom chips your Amiga uses, Operating System library versions,



Protect your data from hard disk crashes by backing it up with ABackUp.

available devices, memory and… oh, too much for my word limit to handle. It's also established itself as one of the standard Amiga benchmark programs and can therefore tell you how quickly (or slowly) your system is running in comparison with an A600, A1200, A3000 and A4000.

● **Zap 2.44 –** Zap is a 'binary file editor'. Errm, yeah. It enables you to edit binary files (and they say these things have obscure titles). Like a text editor, it makes this task somewhat easier thanks to its powerful search facilities which let you quickly find any occurrences of a given binary or ASCII pattern.

It may not be particularly user-friendly but boy is it powerful.

Rating 78%

Professional File System

KEW=II disk U1137

Would you trust a programmer that claimed he could replace the efforts of Commodore's ex-team of Operating System coders with nothing more than the experience he had gained during his computer studies classes? No, of course you wouldn't. Let's face it, who would?

It's not surprising, therefore, that I was a bit sceptical of this program's credentials when I first read through the accompanying documentation, which claimed just that. Call me old-fashioned but it takes a lot more than a good education to produce a good programmer (as ex-Amiga Shopper writer Mark Smiddy used to put it, good programmers are born from the bedrock of endeavour).

Having used the package, however, I'm embarrassed to say that Professional File System is actually pretty good. Fact is, it's damn good. It replaces the Amiga's own disk filing system with one that is considerably more efficient. Michiel Pelt, the author of Professional File System, claims that his effort is considerably better than anything Commodore's software engineers ever came up with (including those included with Workbench 3.1).

For starters, it can write files to disk between 300 per cent and 500 per cent faster and can read files around 50 per cent faster (it's OK, Commodore lovers, we know their own file system wasn't too sluggish, either). Michiel has even managed to improve the speed of directory scanning with Professional File System able to read the contents of a disk directory between 10 and 20 times faster than the original Fast File System and even three times faster than the new Workbench 3.0 Fast File System with Directory Caching enabled. Blimey!

So, what's the catch? Well, there isn't one. Despite these tremendous increases in disk performance, Michiel has managed to maintain full AmigaDOS compatibility with both standard and high density disks. Better still, you can even store around 10 per cent more data on your disks due to Professional File System's better disk handling. I know – it's all too good to be true, isn't it!

What's more, the Professional File System is very easy to install. Like the MS-DOS file system handler CrossDOS, Professional File System accesses disks using its own device names – in this case, PF0 and PF1. All you have to do is run the included installation script and all the necessary lines are added to your StartUp-Sequence, automatically installing the Professional File System device drivers.

Once installed, you can access your disks using either Commodore's own device drivers (DF0: etc.) or you can live life in the fast lane by accessing them using the Professional File System equivalents. A brilliant package that no self respecting Amiga user should be without.

Rating 92%

Vark's CLI Utilities VII

Roberta Smith DTP

As PD programmers have increasingly managed to get to grips with the Amiga's Intuition environment, fewer are bothering to write purely Shell-based programs. Thankfully, not every PD library has ignored the Shell – Roberta Smith's new Vark VII is absolutely jam-packed with the very best in public domain Shell utilities, ranging from picture viewers and Shell command replacements to a small utility that even claims to dump your Amiga's Kickstart ROM to disk as a binary file.

Being a disk that contains nothing but Shell programs, you shouldn't be too surprised to discover that Vark's CLI Utilities VII boots directly into the Shell with not a single Workbench window in sight. Due to the large number of Shell commands on offer, Vark (as he likes to be known by everyone except his mum) has organised the utilities into a series of submenus that list around 16 separate files per menu 'page'. To access each submenu just hit the appropriate function key.

Some of the utilities on offer are very interesting and genuinely useful. Take Arq, for example. Arq (of which version 1.83 is included) is a Workbench enhancer that patches the standard system requesters. Whenever a program tries to display a requester asking for a disk, for example, Arq's own requesters are displayed instead.

What makes it so great is the inclusion of fully animated icons in the requesters, which improve the appearance of your Workbench considerably. It may not strictly be a Shell program but because it has to be run from the Shell it still qualifies in my book.

Many of the Shell programs on offer are somewhat specialist. Take a look at Call. Its sole aim in life is to generate telephone touch tones (beeping noises, that is). Then, of course, there's ChipMemFirst – it forces your Amiga to use Chip RAM instead of Fast RAM when choosing which type of memory to allocate. The range of Shell programs on offer is just too vast to cover here so you'll have to buy the disk for yourself to find out what else it has to offer. Trust me – you won't be disappointed.

Rating 86%

Transition

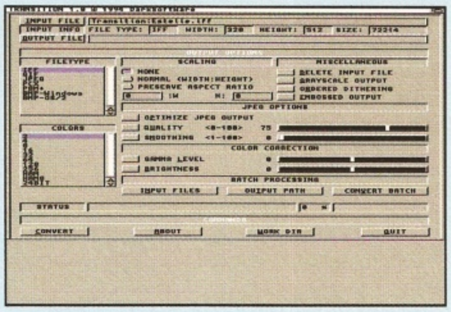
KEW=II disk V1215

The Amiga's IFF file format is fine if you want to exchange pictures with fellow Amiga users, but what do you do if your friends happen to own PCs? First, stop laughing at them, and second,

▶ 85

Arq replaces the Amiga's system requesters with its own animated ones – certainly a big improvement on Commodore's rather drab offerings.





Convert IFF images to and from a wide range of PC picture file formats with KEW's Transition.

83 get Transition. It's a simple Workbench 2.0+ tool that converts IFF pictures to and from a number of well-known PC picture file formats, including GIF, JPEG, PCX, PBM and BMP for Windows or OS/2 Warp.

The great thing about Transition is its wonderful front end that is similar to that other great image processing program, ImageStudio. Although Transition does have its faults (you can't, for example, view your pictures from within Transition), it gets the job done in an elegant and easy-to-use way. Even if you don't know anyone with a PC, Transition is worth owning because it enables you to take advantage of the wide range of CD-ROMs containing images stored in PCX and BMP formats. A must for all graphic fans with little cash in the bank.

Rating 82%

Cynostic Utility Collection 65

Cynostic PD disk U0255

Cynostic is well known for its range of utility compilations and this latest disk continues the tradition with eight separate PD utilities vying for your attention. Here's a rundown of what's on offer…

● **AppMenu 2.1 –** You know when a program's icon is heavily embedded within the directory structure of a disk, and all you want to do is find it and double-click? Nasty, isn't it, all that clicking through drawers just to find the icon. The answer, of course, lies in a utility like AppMenu. AppMenu lets you add programs to the Workbench's Tools pull-down menu so you can load your favourite programs simply by selecting their name from the menu.

If that isn't enough, the program includes an easy-to-use Preference editor.

● **SMenu –** This is a little Workbench tool designed to ease the strain of keeping track of multiple screens. When invoked, the program shows a window containing a list of all Intuition screens currently open on your system. You can then re-arrange screens, bring a screen to the front and so on.

● **IFF Library –** If you're a programmer then you should definitely give IFF Library a look. It provides a quick and easy method of reading and writing IFF format files from within your own programs. The library provides no fewer than 18 functions designed to make the process of handling IFF files that bit easier. There are functions to compress and decompress plane data, decode the colour table and view modes and so on.

● **Mformat –** Mformat, a replacement for the Amiga's own disk formatting utility, can format disks considerably faster than Commodore's standard. For users of Workbench 2.04 or earlier, the program also features a considerably better interface than the standard disk formatter.

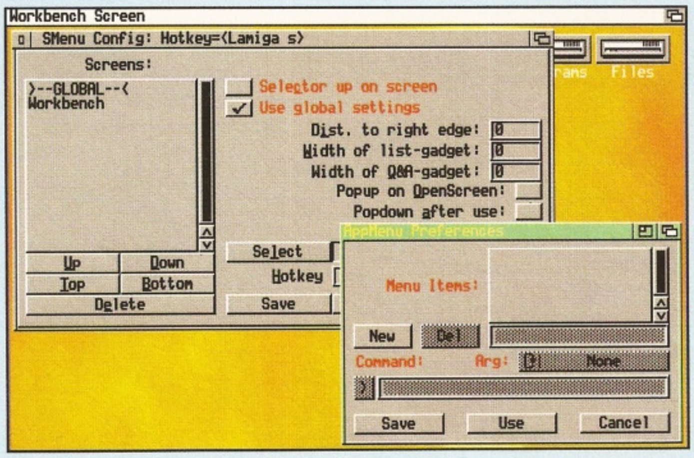
● **QFormat –** Hot on the heels of Mformat is QFormat which, once again, claims to format disks considerably faster than the disk formatter provided with Workbench. Unlike Mformat, however, QFormat is highly reconfigureable and can automatically install disks. It also provides full control over such things as the Trashcan, the disk name and so on.

● **MouseWatcher –** As its name suggests, MouseWatcher is a little Workbench program that displays a set of eyes that 'watch' your mouse as it moves around the screen. Unix and PC fans will probably love it but personally I can't see the point. (Or should that be pointer – guffaw – oh I kill myself sometimes.)

● **Online-o-Meter –** With the words 'online' and 'meter' in the title, it doesn't take much to work out what this program does. If you're a modem owner, Online-o-Meter keeps you informed about the cost of your modem sessions so you won't be too shocked when BT kindly send you the bill.

● **VirtualWorld –** Designed as an experiment in virtual reality, VirtualWorld is a viewer program for an under-development package that allows you to create your own er… virtual worlds. Judging by the demonstration worlds bundled with the viewer, the package should certainly raise a few eyebrows – even on a basic A1200, VirtualWorld is very, very fast.

Rating 76%



Add programs to the Workbench Tools menu and keep track of your Intuition screens with the stuff on Cynostic's Utility Collection 65.

Apple 2000 1.3

Cynostic PD disk U0293

Always a popular addition to PD libraries, emulators are available to transform your Amiga into anything from a Nintendo Game Boy (I kid you not!), a 48k Sinclair Spectrum, a Commodore 64 and even an IBM PC. The latest machine to receive the emulation treatment is the aged Apple IIe, the computer that launched Steve Jobs's Apple Computer empire on the way to Macintosh heaven. OK, so the Apple IIe may not be quite as desirable as your average Mac (when is someone going to come up with a PD Macintosh emulator?), but I'm sure there's someone out there that either wants to run their old Apple software or just fancies taking a trip down memory lane.

Apple 2000 is designed to run on Amigas equipped with at least a 68020 processor and Workbench 2.0, so those of you with unaccelerated A500s or A2000s need not apply. Even if you get past this hurdle, there is one more problem that you must overcome before you can get your pseudo-Apple up and running – you need access to a real Apple IIe in order to extract a copy of the machine's ROM as a binary file. "Why not just include it with the package?" I hear you ask. Well, the ROM is still copyrighted material owned by the mighty Apple Computer Inc., so only a fool would dare distribute that. By providing a 'give away' copy Cynostic would risk incurring the wrath of Apple – not recommended.

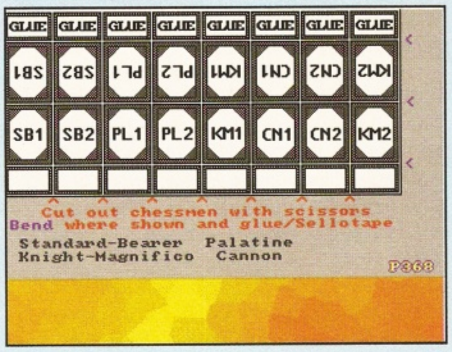
Once you've overcome all these problems, your Amiga-based Apple IIe is ready to roll and – I'm pleased to report – it works surprisingly well. Having owned an Apple IIe many, many years ago, Apple 2000 provided a surprisingly good emulation which handled all the software I managed to dust off and feed it. If you want an Apple II emulator then look no further than Apple 2000.

Rating 80%

Chesmayne

Immediate Arts PD

Chesmayne is designed to meet the needs of both amateur and mature (as in skill, not age) 86



Play chess? Don't understand this diagram? You need Immediate Arts's Chesmayne. Call our toll-free number now!



With Software 2000's C64 emulator pack you can run all your favourite Commodore C64 games without having to own the beast.

85 chess players. It's essentially an illustrated guide to the game of chess. Aimed at players of all skills and ages, the guide covers the basic rules of chess: openings, middle game and end game moves as well as chess notation. It aims to teach chess fundamentals, by explaining chess strategies using a combination of comprehensive examples and a goodly selection of full-colour diagrams. Whether you're a budding Kasparov or a complete chess duffer, Chesmayne is worth investigating.

Rating 78%

C64 V3.0

Software 2000

Following hot on the heels of Apple 2000 is another emulation package which should enjoy a much wider audience. As its name suggests, C64 V3.0 is an emulator that allows you to run software (games, that is) designed for the Commodore 64 on your humble A1200 or A4000. Although it does also run on A600s and A500s, the author recommends an accelerated machine for optimum performance.

The six-disk set sells for £8.99 (plus 70p postage and packing) and contains the very latest release of A64 (the only PD Commodore 64 emulator available), plus no fewer than 100 C64 games, including such classics as Boulderdash, Nemesis, Stellar 7, Monty Mole, Falcon Patrol 2 (one of my personal favourites), Hunchback 2 and many more besides. As I'm a bit long in the tooth, many of the games in Software 2000's compilation brought memories of a misspent youth well and truly flooding back. Ah, those were the days…

Getting C64 V3.0 up and running is easier than you could possibly imagine. Unlike Apple 2000, there's absolutely no setting up required whatsoever – just slip the C64 program disk into your Amiga's internal drive, switch on and your Amiga 64 will spring to life. Previous versions of the A64 emulator didn't include the C64's ROM code, but bearing in mind the recent takeover of Commodore, it seems the author has decided it's OK to distribute what is essentially copyrighted material. Personally, I can't see Escom being particularly worried about such an emulator but who knows – stranger things have certainly happened (mostly to makers of Macintosh emulators).

Provided with the emulator is a printed sheet that lists the games found on the various disks and documents everything you need to know to load a game into the C64. It's actually a lot easier than you might think – all you do is to type 'Load "game",8,1' (where "game" is the filename of the game you want) and C64 then loads the game into memory. Finally, type 'Run' and your chosen game bursts into action.

In use, the standard of emulation is surprisingly good, although – even on an 030-based Amiga – most games still run somewhat slower than they would on a real C64. Some games didn't seem to run quite how they should, either – the status panel running along the bottom of the screen in Nemesis, for example, was corrupted.

Despite these minor flaws, Software 2000's pack is a real bargain that should appeal to any gamer who wants to relive the glory days of the Commodore 64. Don't expect it to run games like the real thing though – the only machine that can do that is a C64. When you consider that these days you can now buy second-hand C64s with a C2N datasette for around £20, you might be better off buying that instead (see nearest car-boot sale for purchasing details).

Rating 88%

Japanese Vocabulary

PD Soft disk V3015

Japanese is one of those foreign languages that I've always wanted to learn (the original TV adaptation of James Clavell's Shogun got me hooked), but – try as I might – my knowledge of the Japanese language has yet to advance any further than being able to say "hello", "goodbye" and "where're the toilets?" If you too are a struggling multilinguist then PD Soft's new Japanese Vocabulary could be right up your alley (if you'll pardon the expression).

The package consists of two separate programs which have been developed using the authoring system CanDo – Word A Day and Japanese Vocabulary. Word A Day is a little Workbench program designed to fit into your Amiga's WBStartUp drawer. Each time you reboot your Amiga you're given the chance of learning a new Japanese word. Built into the program is a library of well over 1,000 Japanese words – after little more than a couple of days, you too should be able to order a 'suzushii' (cool) glass of 'orenji-jusu' (orange juice) without having to ask a local to 'tasukete kudasai' (please help).

The second program on the disk is Japanese Vocabulary; essentially a quiz designed to help you improve your knowledge of Japanese while – in theory at least – having fun. When the program is first started you're given the chance to either guess the Japanese for an English phrase or vice versa. Like those pub trivia quizzes that we all know and, er… love, a phrase is shown at the top of the screen and you're then given the chance to choose an answer from four options available.

Unfortunately, as a learning tool this program doesn't work quite as well as Word A Day since you spend most of your time trying to remember which phrase goes with what rather than mastering the pronunciation.

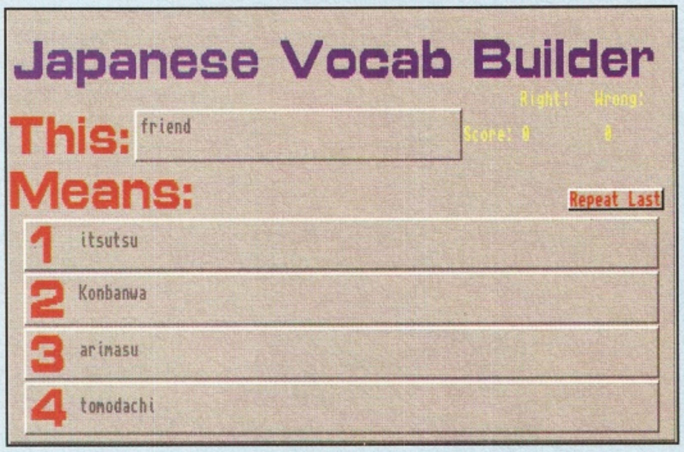
Language tutors are few and far between in the PD libraries so it's nice to see that PD authors are finally starting to turn their attentions to what could be a fascinating area of Amiga PD. If this first attempt is anything to go by, the future for PD language tutors is certainly rosy. Let's hope more PD authors follow suite.

Rating 72%

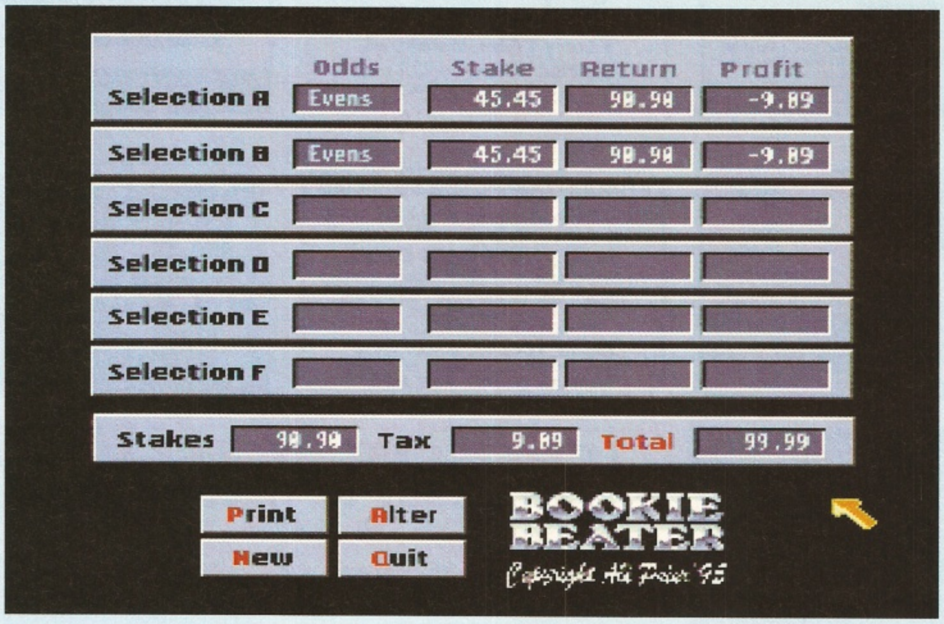
101 Game Compilation

Software 2000

OK, I know Amiga Shopper doesn't cover games but you know what they say about all work and no play. Fact is, even the most ardent techie 89



If you want to learn Japanese but you can't afford the trans-global airfare, try PD Soft's new Japanese Vocabulary.



Put it on red and it came out black? Fear not, for Ali Prior's Bookie Beater can turn even the biggest losers into winners, allegedly.

86▶ enjoys playing games now and then – and what better way to satisfy your want for gaming action than with Software 2000's 101 Game Compilation. Selling for just £10.99 (plus 70p postage and packing), the pack contains 101 of the hottest Amiga PD games including such gems as Dog Fight, Galactoid, Mine Field, Mad Bomber 2 and so on.

All the games are accessed via a friendly mouse-driven menu system which is automatically loaded each time you boot from one of the seven disks. The 101 Game Compilation offers good value for money, ease of use and lots of fun. Top stuff.

Rating 90%

Bookie Beater

Ali Prior

Programmed by the brainchild of ProLottery, Bookie Beater is the latest creation of Ali Prior, a man whose programs have always achieved consistently high ratings in Amiga Shopper. Unlike his previous efforts, however, Bookie Beater is not a prediction program. It's a betting tool which Ali claims guarantees to win you a minimal amount on every single bet that you place.

Yeah, right! But wait! Hear Ali out… By placing six bets on the same event you, in theory, end up making a predetermined profit no matter which of the six bets proves to be a winner. An event need not be horse racing either – the program should work perfectly well for greyhound racing, football, golf, cricket, rugby, or even the outcome of a general election (although how you get six bets out of that one is a mystery to me). The result you bet on can again be anything you choose – the winning margin in a rugby match, the first player to score and so on.

The program adjusts the stakes according to the odds. OK, it sounds simple, but according to Ali the calculations required to accurately adjust the stakes are so complex they would be virtually impossible without a computer like the Amiga slogging away at the maths. For Bookie Beater to work at its best, however, it's crucial that you pick the right events (i.e. don't expect to win if you pick six guaranteed losers, like six British tennis players at Wimbledon, for example). When working with good odds, however, you can use up to six selections in a given event. If the odds are not so good, however, only two or three selections may be possible (a-ha!, so that's how you're able to bet on an election). As a result, the author recommends that you shop around for the best odds for the program to work on (can't beat a cop-out disclaimer).

Bookie Beater may not be everyone's cup of tea but hardened betting fanatics should love it. Not being the betting type myself (the National Lottery is as close as I come to a flutter), I can't really report how successful the program is at ensuring a minimal token amount. The theory is sound enough, though, so if betting is your thing it's well worth checking out.

A free demonstration copy of Bookie Beater can be obtained by sending a blank disk plus a stamped, addressed envelope to Ali Prior, 10 Lovell Park Heights, Leeds LS7 1DP.

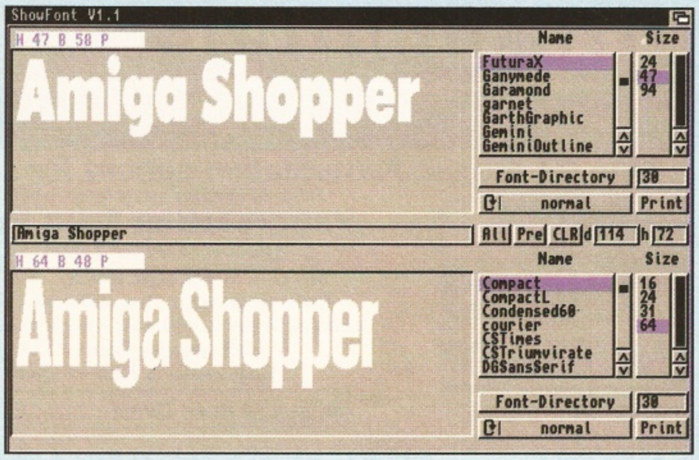
Rating 84%

Amiga Club Utilities

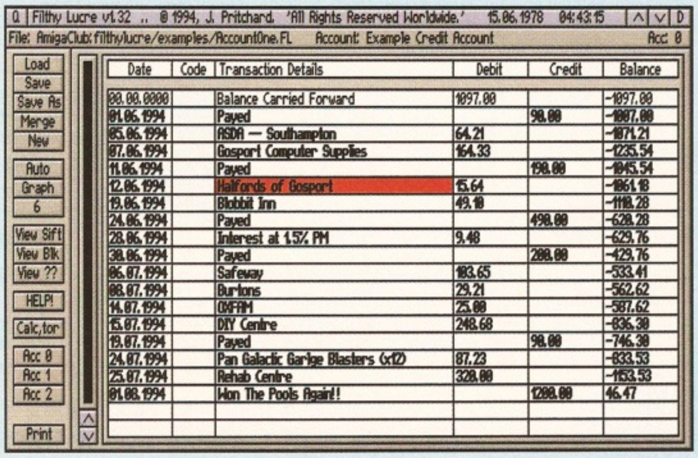
Roberta Smith DTP

Having never heard of the Amiga Club myself, it seems a little strange that Roberta Smith are making such a big furore over the Club's endorsement of essentially another compilation of PD utilities. Still, some support's better than none, don't you think, so let's take a look at what the disk has to offer…

- **ShowFont –** Installed fonts are a bit like rabbits – leave them for more than a couple of weeks and you'll find that they're numbers have increased significantly. ShowFont is a useful ▶91



ShowFont lets you explore your fonts directory. What it cannot do, however, is delete files that you don't want.



Are your funds as plentiful as you'd like? Probably not, but at least you can find out exactly how badly overdrawn you are with FilthyLucre (see page 91).

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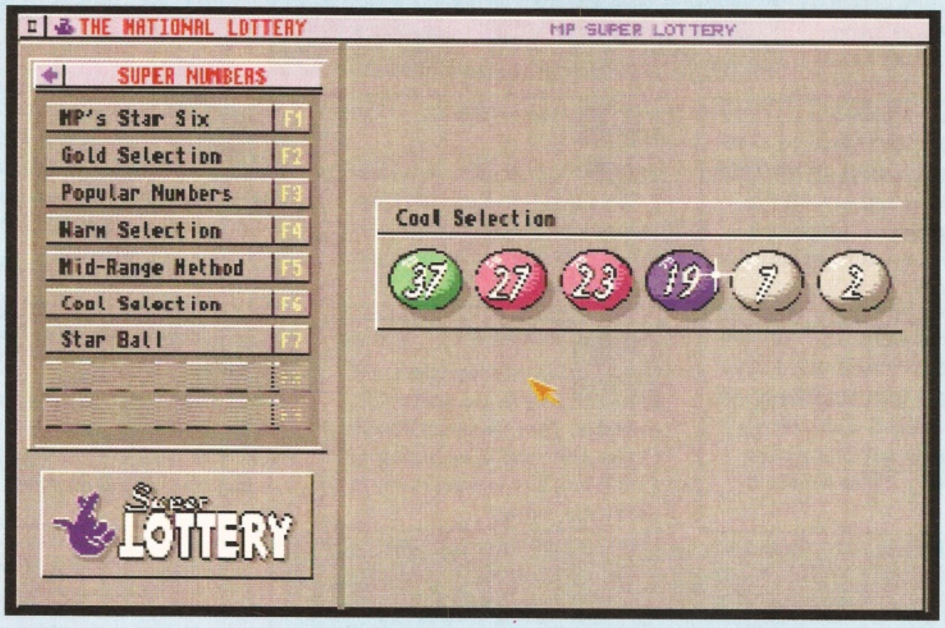


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Roberta Smith's Super Lottery may not significantly increase your chances of winning the now infamous National Lottery, but you'll have a lot of fun trying.

89▶ Workbench tool that lets you explore your font directories and preview any fonts you might have installed. It's only limitation is the lack of file management tools – it would have been nice, for example, to have been able to delete selected fonts.

● **PhoneBill –** This is what Comms fans call a 'logfile' analyser. It scans the logfiles generated by most terminal programs and predicts the cost of your phone bill.

● **PrtSc –** Ever wondered what the 'PrtSc' legend on your numeric keypad's asterisk key actually does? No, neither have I. Fact is, it doesn't do anything. Run this program on your system, however, and your PrtSc key will do what it was designed for – to dump a hardcopy of the front screen to a Prefs-supported printer.

● **TxtCvt –** TxtCvt is a tool that can convert a variety of PC word processor file formats to standard ASCII files that can be loaded into most Amiga word processors. The program supports Word 5.5 for DOS, Word 1.0 and 2.0 for Windows and Windows Write 3.1 files.

● **Droptool –** Droptool is a utility that lets you pass files to a set of specified applications. Simply drop the file's icon on to the Droptool AppIcon created on the Workbench.

● **Disc Cat –** As its name suggests, Disc Cat is a disk cataloguer. It's sole role in life (poor thing) is to allow you to keep track of the contents of your floppy disks. How? By storing the directory structure of each disk along with the disk's name, index number and so on.

PD submissions

If you have some exciting PD disks that you'd like to be considered, send them into the magazine at the usual address, clearly marked as a PD submission. We welcome any type of disk, except games.

If you are a PD house, make sure you include all the information necessary, such as how to contact you and how much the disks cost and how people can pay.

If you are the author of the program, state where people can get your program from, and whether you would like us to consider it for inclusion on a future ShopperChoice Coverdisk.

PD houses

You may have noticed that we haven't included the PD Houses page in this issue. This was due to lack of space – we had so much great stuff that we wanted to squeeze in this month, there just wasn't any room for the page. However, we have included the telephone numbers of all the PD houses featured on these pages in the box at the end of this feature.

You will be pleased to hear that PD Houses will make a return next month – this time on the Coverdisk, along with the User Group pages.

● **BrBox –** BrBox is an interesting Workbench program that acts as a software-based serial port status monitor, acting in the same way as the flashing lights on the front of most modems. It lists the five serial port status lines – RTS, CTS, DSR, CD and DTR – and highlights the appropriate one when the line is activated. Owners of internal modems should find this program useful. So will people who like looking at flashing LEDs. Nobody else will (unless they are mad).

● **QMouse –** QMouse is a simple mouse utility that adds a number of useful features to the Amiga's Workbench, such as automatic window activation, mouse blanking, 'click to front and back' window arrangement, PopCLI (hit a hotkey combination and a Shell window is opened), true MS-DOS-like '*' wildcards and so on. A useful addition to anyone's Workbench.

● **Move –** Move is based around the Unix tool of the same name. It allows you to easily move files between any device or directory. Simple, but effective.

● **FilthyLucre –** Filthy Lucre is an easy to use home finance program. Similar to most other programs of this type, it lets you keep track of your finances by tracing all debits and credits through your various bank accounts. It then uses these to keep a running balance. You can also view the state of your finances in the form of a graph.

● **Splitter 2.0 –** If you have a file that's too big to fit on a floppy disk, you need to split it. Splitter does just that. The files are divided across a number of disks and once transferred across, they can then be joined back together with ease.

Rating 78%

Super Lottery

Roberta Smith DTP

Have you won anything on the National Lottery yet? It's irritating, isn't it? You know, if I only picked one digit above or below on all six of my numbers, I'd be rich now and sunning myself in Barbados, and my numbers for last week came up this week, and aren't those scratch cards a good idea, and…

The chances of winning even a small prize on the National Lottery are so slim that most of us will never manage to win more than the odd tenner (sniffle). There are plenty of programs available in the PD libraries that claim to be able to help you win big on the National Lottery – not least Ali Prior's brilliant ProLottery program that we covered a couple of issues back (AS52). The latest contender hoping to capture your attention is Super Lottery, a program developed by Michael Pratt.

The most striking aspect of Super Lottery is its superb front end that not only looks great but is very easy to use. Amongst its many features, the program is capable of storing several years worth of Lottery results – each new result being input into the database by the user. The program uses these results to calculate the most likely outcome of each Lottery draw.

Super Lottery is a well designed and equally well implemented program. Don't buy it expecting to win a fortune, though – like all programs that base their predictions on the law of averages, there's no way that Super Lottery can guarantee to increase your chances of winning a fortune. Remember, kids – it's called a lottery because that's just what it is. Fact is, half the attraction of such a program is the fascination of studying lottery statistics (no, really, it's very interesting, honest it is…)

Rating 80% ■

It's good to talk

These are the contact numbers or addresses of the PD houses that appear in these reviews…

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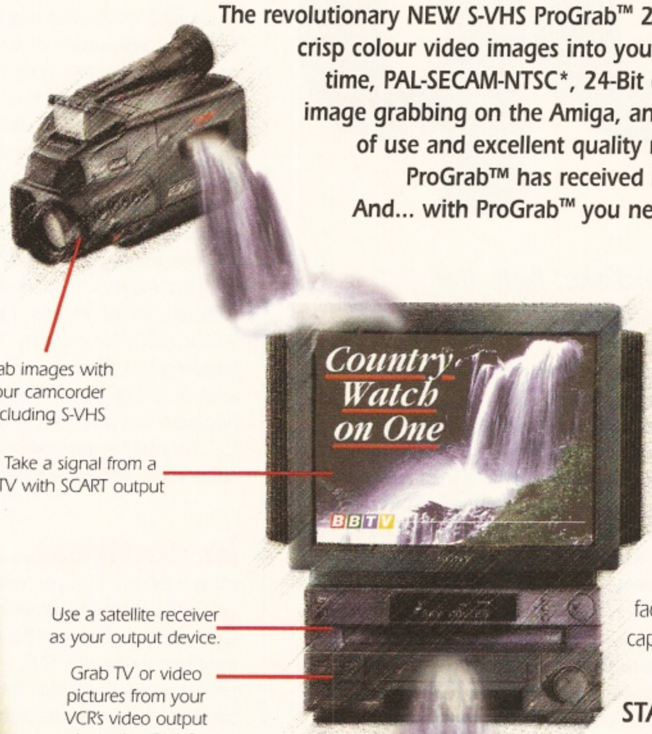
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Talking Shop

This month in Talking Shop: Love the Coverdisks; hate the Coverdisks; AS on the Internet; a plea for help. And more!

There was a flood of letters landing on my desk this month – so many that we haven't got enough room to put them all in. Here's a selection of the best. The Star letter of each month receives £25 for the writer.

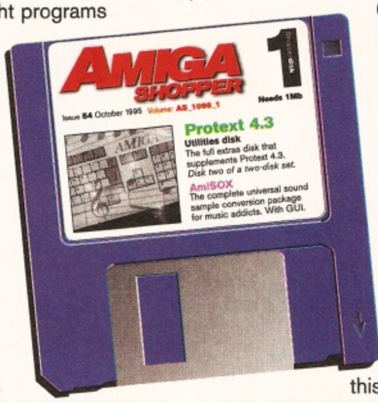
A happy shopper

£25 Winner

First, may I congratulate you on the new Coverdisk style. I don't think I've seen so much packed on to so few disks before! I found no less than seven or eight programs on your August disks which are now permanently stored on my hard drive – something of a record for me.

Secondly, now that the Assembler series is finished and the C tutorial has changed into a DICE one, how about a slightly more advanced series about some of the more clever features of the OS, along with the more subtle Exec tricks? It needs to be language independent, so that it is applicable to Assembly, C, BASIC and anything else that can access the system. The RKM manuals don't cover everything. I realise such a tutorial may be slightly dry and unappealing to new users, but as Amiga Shopper is the best serious Amiga mag about, why not do something which appeals to the more serious users?

I have just put down the preview of Hi-Q's Siamese System and, to put it mildly, am slightly interested. The possibility of a joint Amiga/PC set-up has been talked about a lot, but never really achieved. However, the PowerStation was designed for A1200 owners who wanted Big Box expandability. I own an A4000/030 – as the PowerStation is essentially a box, am I right in assuming there is no problem here? Or would the Siamese System upgrade work with the original Commodore Big Box, without the need for a PowerStation? Finally, the PowerStation (and presumably the Siamese System) relies on the Squirrel PCMCIA SCSI connector. The A4000 does not have the PCMCIA socket, so would any third-party SCSI controller do?



If the Siamese System turns out to be useless for an A4000, how else would you recommend I run PC software on my Amiga? I have been looking at the PC Emplant board, but as this uses the Amiga's Motorola CPU to emulate an Intel, I really can't imagine it being particularly useful on a 68EC030.

Is it possible to buy a separate MMU for the EC version of the 030, or would I have to buy a whole new processor?

Ian Parkinson
Southampton, Hants

The DICE-specific tutorial finishes in this issue. Toby intends to carry on with lessons in C covering subjects like object-orientated programming. However, I will keep your suggestions in Amiga Shopper's Ideas File!

You're not the only one who's "mildly interested" in the Siamese System – Hi-Q have had a steady stream of enquiries. To answer your questions, the system, although primarily aimed at A1200 users, is being developed on an A4000 and so will definitely be available for you. You need the PowerStation simply because that's where the PC motherboard goes. Although it should work with any SCSI controller, that is dependent on the SCSI devices they use. It is being developed to work with the most popular devices, but should work with any, which means that if you've already got a SCSI CD, for example, then "you're laughing", as Steven from Hi-Q put it. This system will give you best PC compatibility, because it is a real PC.

Thanks for the comments on the disks – at least some people are happy.

In contrast...

Please tell me that you are not going to continue using the archiving process used on the Coverdisks with issue 52 of your otherwise excellent magazine. OK, you can include more programs on the disks, but at what cost? It takes far longer to de-archive the programs you want when you have to de-archive several other programs as well!

Previously, I have de-archived the programs I'm interested in to the RAM disk to test them out, and read their documentation, then if I like them I copy/install them to hard disk, otherwise they are deleted. Please return to using one archive to one program, you know it makes sense! Also, please don't fall into the trap of using a non-standard file system like PFS/AFS for your Coverdisks as other, lesser, magazines have. I found the Coverdisks on AUI very tedious and time consuming to de-archive.

Mr M S Cornwall
Luton, Bedfordshire

Er, which disks use PFS/AFS? None that we know of. Sorry we give you too many programs. We can't please everybody!

Daring on the Net

I have just found your amazing magazine on the Net and first of all want to congratulate you. Isn't it very daring to publish your articles electronically? Won't you lose customers?

The reason for my letter is that somehow you seem to have forgotten both the free and commercial DICE C compiler in your languages Supertest. I just want you and all your readers to know that I can strongly recommend the choice for DICE, since it is cheap, fast and compatible. I never used anything else and have no intention to do so for the time being.

Thomas Ganter
E-mail, Germany

We only ever publish articles on our FutureNet pages that have already appeared in an issue of

Subjects of interest and how to contact us

£25 Winner

We want you to write in to Talking Shop to tell us which 10 Amiga-related articles you would like to see featured in Amiga Shopper. AS is, after all, your magazine and for us to keep giving you all the information you want we need you to tell us what else you are looking for. It could be an interview with an industry figure, a Supertest of monitors, a tutorial on a particular program or a review of a certain product that we haven't done. We can't promise that everyone's ideas will be used, but if several people ask for the same feature, then we will act upon it.

Or you could just write to us and tell us what you think of Escom's plans for your machine and how you think they should be developing Amiga technology.

And remember that the Star letter of the month wins £25! Send your ideas in to:
Talking Shop, Amiga Shopper,
Future Publishing, 30 Monmouth Street,
Bath BA1 2BW.
Alternatively, E-mail your letters to:
amshopper@cix.compulink.co.uk
sgrant@futurenet.co.uk
All the letters received at these addresses will be considered for publication, unless you specifically advise us otherwise.

the magazine. And we never publish a complete issue of Amiga Shopper, so buying back issues isn't affected either. What we do try and do is to give Internet users a taste of what Amiga Shopper is all about (as well as giving them something interesting to read). Hopefully, they will buy the magazine too! If you want to have a look at Amiga Shopper's pages on the Internet try:
http://www.futurenet.co.uk/computing/amigashopper.html

We have been running a tutorial for DICE over the past few months and, in fact, we gave away a special, cut-down version of DICE 3.0 on our March 1995 issue's Coverdisk (AS47), so we certainly haven't forgotten about it!

Helpful hints

Thank you very much for including my program, Icon Deluxe, on your August Coverdisk. I also would like to express my thanks for the kind review of the program. It was very gratifying and provided some exposure for my program (most people wouldn't bother to download an icon editor from Aminet). Thank you also for the comment that "Icon Deluxe can only handle images up to 400x400". I had not realised that people would be interested in loading large pictures into the program, so I implemented that feature in the latest version.

Brian Tietz
La Jolla, California, USA

Need any more encouragement to send in your programs? Stuff them in an envelope and send them to: David Taylor, Coverdisk Submissions, Amiga Shopper, Future Publishing, 30 Monmouth St, Bath BA1 2BW.

Top mag, low price

I am writing to express my delight as to the way Amiga Shopper has been progressing over the last six months.

I was unsure at first about the advantages of the new format, worrying that my subscription renewal would become too expensive for my modest student's budget, but the quality of the magazine and accompanying Coverdisks since then has laid all my fears to rest.

However, I have noticed that recently both Amiga Format and Amiga Power have increased their cover prices to over the £4 mark, making them the most expensive magazines of their type around. I fear they will lose many readers to other magazines, and sincerely hope that AS will resist the temptation to increase its price.

I hope that Amiga Technologies GmbH helps give the Amiga back the image and reputation it deserves, and that you will help to play an important role in the new Amiga world.

Michael Cavers
Duns, Berwickshire

It's very gratifying when we receive a letter thanking us for the efforts we go to when we're putting together the magazine.

Sadly, all magazines have been hit by the massive increases in paper prices recently which has forced them to charge more. We hope to keep our cover price below the £4 mark for as long as possible!

Amiga Shopper, Amiga Format and Amiga Power are all looking forward to dealing with Amiga Technologies when Amigas appear on the High Street again – we are already in regular communication with them. Turn to page 14 for the latest information.

Worldwide appeal

Hi! I am an architect and Professor of Fine Arts at the National Fine Arts School 'Pueyrredon' of Buenos Aires and I've been working in computer art (as an amateur) since 1982.

Several years ago we formed a group of three painters called M.A.d.C (Mouimieuto Argentino de arte Computarizado) to investigate the possibilities of the integration between video, paints and computers as a way to capture reality. In 1988 we began to work with an A500 and now we have an Amiga 4000.

Thanks a lot for your magazine. It's not easy to find it here, and we don't have a lot of Amiga books so you are an incredible contribution for us. We hope Amiga Technologies continue production – we know the Commodore situation. We are at the other side of the world – a demonstration of how far the Amiga can go!

If you decide to include a little article about the Amiga in Argentina and our group the M.A.d.C (Fer, José Chaya, and Andrea Russi), please send a fax (if possible) to us in Argentina to try to find the magazine number in Buenos Aires and buy it! It will be fantastic for us!



M.A.d.C.'s Amiga-generated artwork.

Fer, Andrea Russi, José Chaya
Buenos Aires, Argentina

Amiga Shopper is always on the look-out for people who use their Amigas for business or hobbies to feature in the magazine – we have already interviewed graphics wizards, The Room Upstairs, in AS51 and we had a music feature based around the group Alien Race in AS53. We especially want to hear from people who use their Amigas in an unusual way! So write in and tell us how you use your Amiga. ■

Advertisers' index

AIWA competition

Five lucky readers now have the chance to win an excellent CD-ROM drive, or a superb set of speakers...

According to Amiga Shopper's recent Reader Survey, 25 per cent of our readers already own a CD-ROM drive, so at least three quarters of you will be happy to know that you could win one of TWO AIWA ACD-300 CD-ROM drives (reviewed in issue 53) that we are giving away. *If* you enter our competion, that is.

The ACD-300 CD-ROM drive normally retails for around £169.99 and is definitely worth the money – David Taylor went as far to say that "This is the best dual-speed CD-ROM drive I've ever seen."

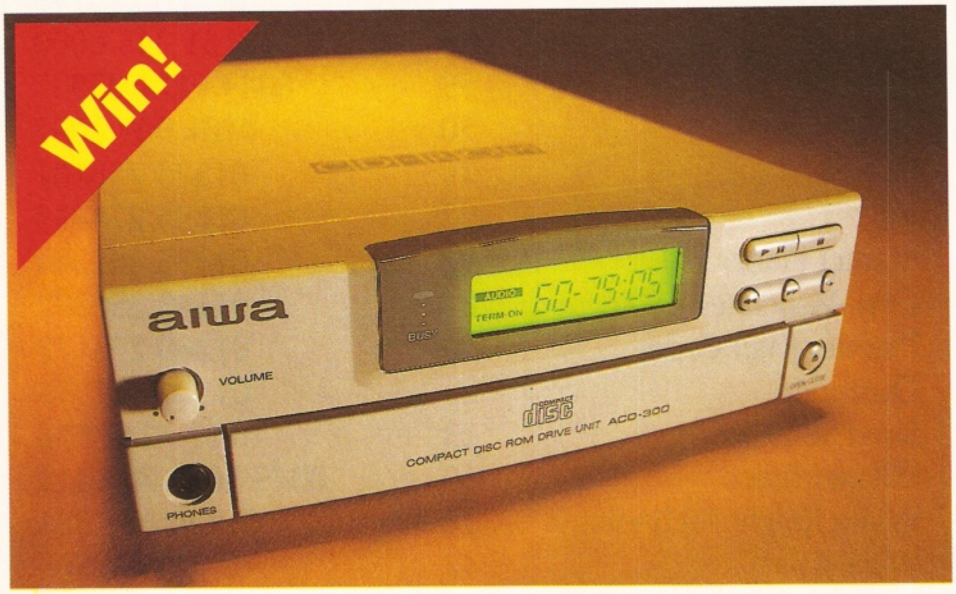


"This is the **best** dual-speed CD-ROM drive I've ever seen."

Plus! We have THREE sets of AIWA's excellent SC-C55 multimedia loudspeakers to give away, too. The speakers retail for around £50 and if you want to know more about them, turn to page 45 where David reviews them.

Both the drives and the speakers have been generously donated by AIWA. They can be contacted on ☎ 0181 897 7000.

All you have to do to be in with a chance of winning one of these brilliant prizes is to answer correctly the five questions below and send your answers in to Amiga Shopper:



The questions!

1. What does the acronym CD-ROM stand for?
2. What percentage score did Amiga Shopper give the AIWA ACD-300 CD-ROM drive in our review (AS53)?
3. Why is playing audio CDs on the ACD-300 drive so easy?
4. How many inputs can the SC-C55 speakers take?
5. What is the surround button on the SC-C55 speakers for?

How to enter

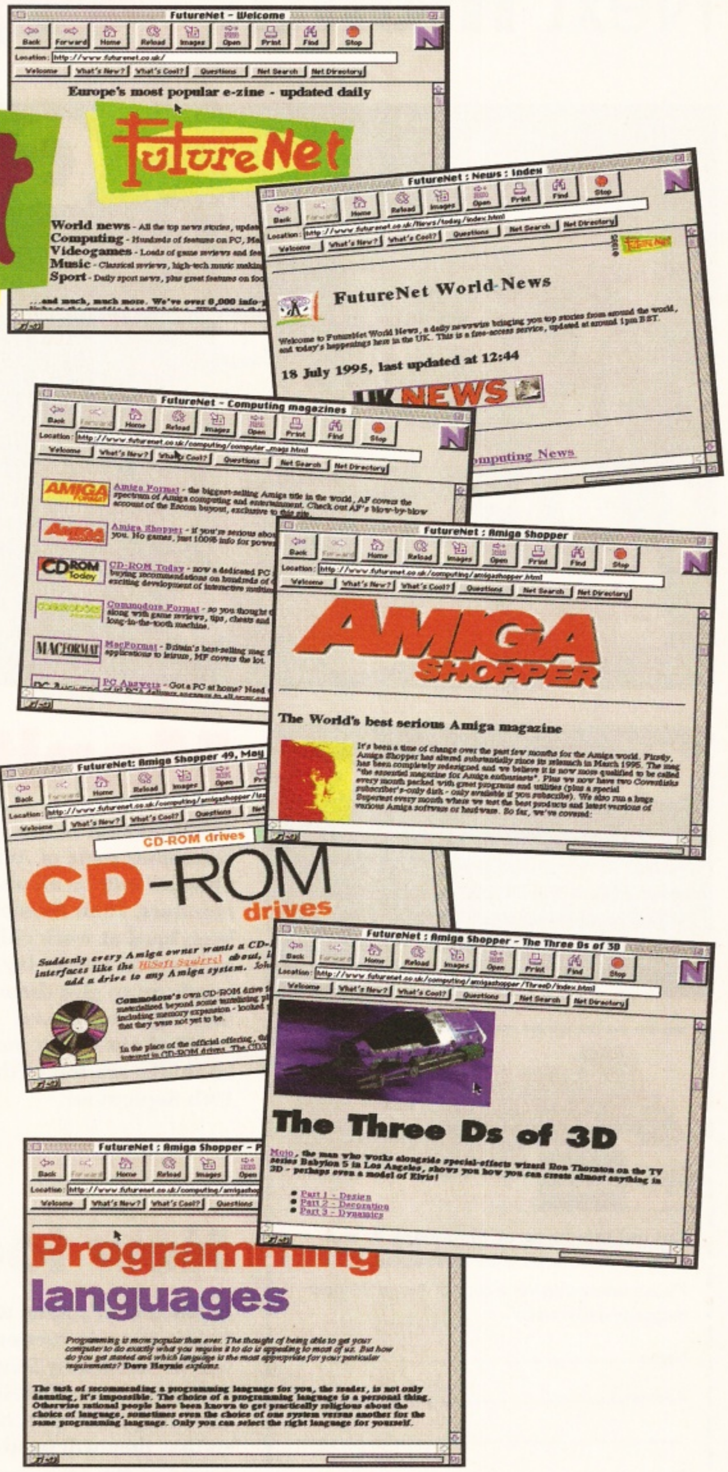
Write your answers to the five questions above on a postcard (or on the back of a sealed envelope) and send them in to:
AIWA Competition, Amiga Shopper, 30 Monmouth Street, Bath BA1 2BW.

The closing date for this competition is Tuesday, 19th September 1995.

Competition rules

1. All entries must be received by Tuesday, 19th September 1995.
2. Employees of Future Publishing Limited or AIWA (UK) Ltd. are not allowed to enter.
3. The Editor's decision is final.

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http://www.futurenet.co.uk/computing/amigashopper.html

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AMIGA SHOPPER

Next **month**



Getting your back-up!

The choice of storage devices for your Amiga has mushroomed recently. Which method is best for you? We'll be scouring the magnetic world and examining every possibility, from the humble floppy to the latest developments.

There'll be flopticals, hard drives, magneto-opticals, SyQuests, CD-ROMs, PDs, Zips...

If you're in the market for a new drive, don't buy anything till you've read this comprehensive round-up of the options.

Coverdisks

Next month we'll have another two Coverdisks crammed full of great programs and utilities. Don't forget that if you subscribe you'll receive an exclusive-to-subscribers THIRD disk!

Monitor mania



The Supertest in the November issue of Amiga Shopper will be all about monitors. John Kennedy has been hard at work collecting as many as he can lay his hands on to give them all a thorough going over.

Find out which monitors he thinks are top of the pile on 19th September!

AMIGA SHOPPER MAG*SAVE

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Please reserve/deliver a copy of Amiga Shopper magazine each month.

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To the newsagent: Amiga Shopper is published by Future Publishing ☎ 01225 442244

New look PD

In November's issue we revamp our Public Domain section. For a start it will be written by David Taylor and our newest recruit, Nick Harper. Not only have they contacted over 90 PD houses, so that they will be able to bring you the cream of the crop from every possible source, but they'll also be surfing the Net (man!) to find the latest and best from Aminet and elsewhere.

Future Publishing Birthday Compo

Future Publishing is 10 years old in October 1995, and to celebrate we have a massive competition next month. Amiga Shopper's readers will have the chance to win a whole load of brilliant prizes. You'll have to buy the issue to find out more!

November issue **55.** On sale Tuesday, **19th September**

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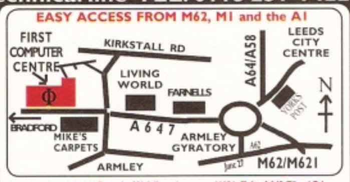
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SupraFAXModem 144LC

V.32 bis (14400 baud)

Low cost version of the classic V32Bis Fax modem. Features as below but class 1 fax only and LED display

now only £96.99

Supra modems are not BABT approved, however they perform as well & often out perform BABT approved modems. Supra Modems have a 5 year limited warranty

USRobotics

WE ARE PREFERRED USR DEALERS

New Low Prices

Sportster 288 only £193.99

features V34, 28,800 BPS, BABT approved

hought V32bis was fast try V 34 (28,800 bps).

Sportster 144 £134.99

Amazing price reduction on Courier Dual Standard V34+ £287.99 Now 33,600 bps.

Disks/Storage

low low Prices

QTY	Bulk DS/DD	Branded DS/DD
10	£3.49	£4.49
30	£9.99	£11.99
50	£15.99	£18.99
100	£29.99	£35.99
200	£52.99	£63.49
500	£118.99	£142.99
1000	£211.99	£253.99

All disks are guaranteed, All branded disks come with labels



MULTI COLOUR Disk labels

500 £6.99

1000 £9.99

10 Capacity box	£0.99
50 Capacity lockable box	£3.99
100 Capacity lockable box	£5.49
*90 Capacity Banx box	£10.99
*150 Capacity Posso box	£20.99
100 Capacity CD holder	£4.99

*add £3.00 delivery if purchasing just one Posso or Banx box. Normal delivery when purchased with other product or when buying 2 or more.

Consumables

Ribbons

Citizen Swift/ABC mono	£3.99
Citizen Swift/ABC colour	£12.99
Star LC90 mono ribbon	£4.99
Star LC10/100 mono	£3.69
Star LC10/100 colour	£7.99
Star LC240c colour	£13.99
Star LC240c mono	£8.99
Star LC240 mono	£5.99
Star LC24-10/200/300 Colour	£13.99
Re-Ink Spray for mono ribbons	£11.99

MOST OTHER MAKES AVAILABLE

PREMIER-INK Cartridge Refills

Save a fortune in running costs with your ink/bubble jet. Compatible with the HP Deskjet series, Canon BJ10/20/80/130/200/300/330, Star SJ48, Citizen Projet and many others. Full range of colours available.

Single refills	(22ml)	£6.99
Twin refills	(44ml)	£12.99
Three colour kit	(66ml)	£19.99
Full colour kit	(88ml)	£27.99
Bulk refills	(125ml)	£24.99

Miscellaneous

Printer Switch Box 2 way	£12.99
Printer Switch Box 3 way	£17.99
Printer Stands (Universal)	£7.99
1.8 Metre printer cable	£4.99
3 Metre printer cable	£6.99
5 Metre printer cable	£8.99
10 Metre printer cable	£12.99
Parallel port extension cable	£9.99

Ink Cartridges

Canon BJ10/Star SJ48	£19.99
Canon Bj200/230	£19.99
Canon BJ30 (3 pack)	£13.99
Canon BJC 70 mono (3 pack)	£10.99
Canon BJC 70 colour (3 pack)	£16.99
Canon BJC 4000 colour (single)	£16.99
Canon BJC 4000 mono (single)	£7.99
Canon BJC 4000 mono high cap.	£28.99
Canon BjC 600e mono high cap.	£10.49
Canon BjC 600e colour	£8.99
HP.Deskjet colour	£26.99
HP. Deskjet double mono	£24.99
HP. Deskjet 660 double mono	£25.99
HP.Deskjet 660 colour	£27.99
Epson Stylus mono	£15.99
Epson Stylus colour	£36.99
Star SJ144 mono/colour (single)	£8.99

Covers

All printer dust covers	£5.99

Paper

Prices apply only when ordered with printer or purchased direct from the showroom

Fanfold (tractor feed) 500 sheets	£4.99
Fanfold (tractor feed) 1000 sheets	£8.99
Fanfold (tractor feed) 2000 sheets	£17.99
Single sheet 500 sheets	£4.99
Single sheet 1000 sheets	£8.99
Single sheet 2000 sheets	£17.99
Epson Stylus 720 dpi paper pack	£22.99

Delivery for 2000 sheets £5.00 when purchased without printer

Printer repair specialists call for quote

Peripherals

Viper II 28 MMU	£145.99
Viper II 40 EC	£189.99
Roboshift MK1	£9.99
New Mega Mouse+	£12.99
Mega Mouse 400 dpi	£11.49
True Mouse 300 dpi	£10.99
Crystal Trackball	£34.99
ZyFi-2 Speakers	£26.99
ZyFi Pro Speakers	£57.99
Amiga Modulator	£34.99
Amiga PSU	£34.99

SPECIAL LIMITED OFFER!! Workbench 2.1 software upgrade only £29.99

Kickstart 2.04	£30.99
Kickstart 2.05 (for use in A600)	£30.99
Fatter Agnes 8375-16	£26.99
Super Denise	£18.99
6571-0326 Keyboard controller	£13.99
CIA 8520A I/O controller	£10.99
68882 Co Pro 25mhz PLCC	£34.99
68882 Co Pro 33mhz PLCC	£44.99

Turbotech realtime clock cartridge £17.99 fits any Amiga

CD ROM Software

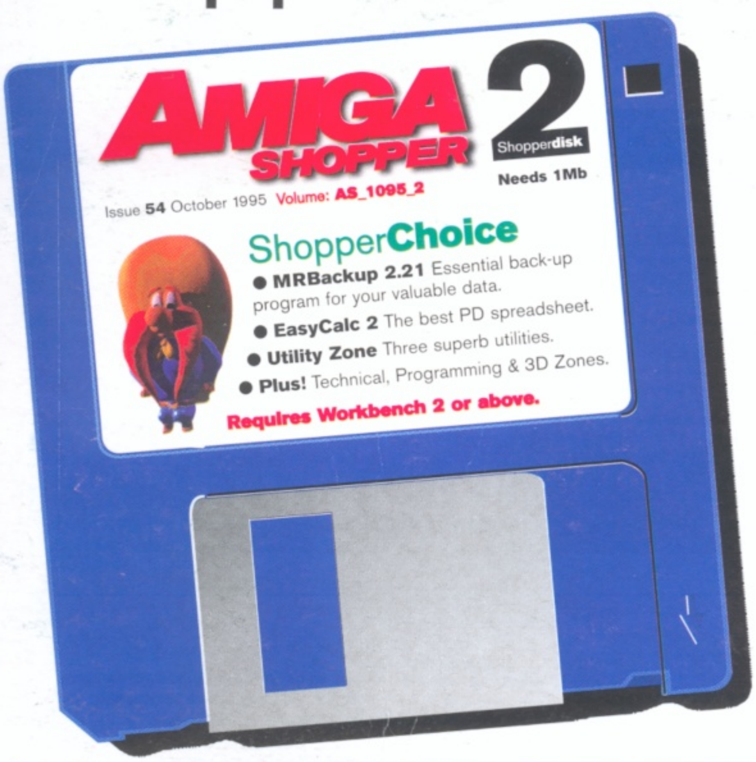
THE BIGGEST SELECTION IN THE COUNTRY ALL AT THE BEST PRICES...FROM THE NO.1 IN CD-ROM

17 Bit Collection (Double)	£28.99
17 Bit Continuation	£14.49
17 Bit Phase 4	£14.49
17 Bit/LSD compendium 1	£16.99
17 Bit/LSD compendium 2	£16.99
Adult Sensations (Over 18's)	£17.99
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New!! Aminet 7	£14.49
Aminet collection (Box set 4 CD's)	£24.49
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BCI Net 1	£8.99
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CAM (Double)	£22.49
CD-PD 1	£8.99
CD-PD 2	£8.99
CD-PD 3	£8.99
CD-PD 4	£12.99
Demo CD 1	£8.99
Demo CD 2	£8.99
Euroscene	£12.49
Fractal Universe	£17.49
Fresh Fish 8	£27.49
Gateway	£8.99
GoldFish 1	£24.49
GoldFish 2	£24.49
Grafix Sensations	£17.49
New!! Groliers Encyclopedia	£25.99
Illusions in 3D	£8.99
Light ROM	£29.99
Light Works	£29.99
Magic Illusions	£11.49
Meeting Pearls I	£9.99
Meeting Pearls II	£9.99
MultiMedia ToolKit 2 (2xCD's)	£27.99
Network CD	£12.49
New Price!! Prima CD Vol. 1	£9.99
Professional Gifs	£17.49
Proffessional Utilities	£17.49
Sounds Terrific (Double)	£17.49
Space And Astronomy	£16.99
Spectrum Sensations	£17.49
The Beauty of Chaos	£13.49
New!! Ten on Ten pack (10xCD's)	£35.99
New!! UPD Gold CD (4 x CD's)	£27.99
New!! World Of Pinups	£12.99
WPD Hottest 4	£17.99
WPD Hottest 5	£17.99
Wierd Science Fonts	£8.99
Weird Science Clipart	£8.99
Wierd Science Animation	£16.99
New!! Zoom	£18.99

FREE!! Prima Shareware CD-ROM worth £10 with every order of CD-ROM software over £30

Shopper**disks**

*We have two top quality Coverdisks for you this month containing over **4Mb** of brilliant programs and utilities. And they're all conveniently arranged into six zones.*



ShopperChoice

Utility**Zone**

Yak 2.02

One of the Amiga's favourite commodities has had a huge update. This is the latest and greatest version of the utility that can change your Amiga's Workbench. Revitalise your keyboard and mouse!



Library Manager

The Amiga has a very advanced system that uses shared libraries for various programs. This utility will make sure you have the most recent libraries installed and will protect your system from badly written installation scripts that overwrite libraries with earlier versions.

WinPlay

Play animations within windows on your Workbench. The number of animations playing is limited only by your Amiga's memory.

Technical**Zone**

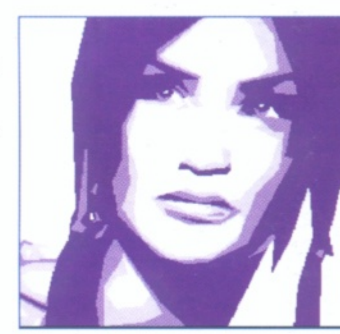
A top quality collection this month that includes a Targa datatype for Workbench 3 as well as four fantastic programs for the more serious user. There's Proc, a virtual file system that brings CLI control over the tasks and screens; and XDM, a program to help you pack non-DOS disks with better efficiency than DMS. CDRun and IfExists are two commands that can make your Shell life easier.

Programming**Zone**

All the support files for this month's programming tutorial files are here, including an amazing BASIC interpreter that is compiled from 2K of code! Run BASIC programs with ease.

3D**Zone**

A real treat for Imagine users this issue, with a whole scene, including the object that's pictured on this month's disk labels – winner of our Amiga Answers competition. Plus! A set of extra utilities for Imagine!



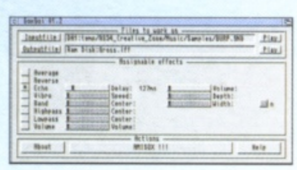
Creative**Zone**

There's a music module, a set of sound samples to use in any music package or with this month's AmiSOX, a set of bitmap fonts to liven up your text and a great demo to round everything off.

Application**Zone**

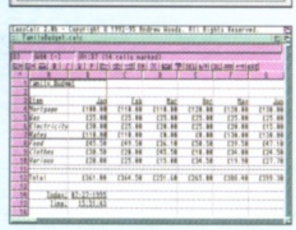
AmiSox 3.3 + GUI

AmiSox is a universal sound sample convertor that can handle samples from different machines as well as add effects to your sounds. This version also has an easy to use interface and sample player.



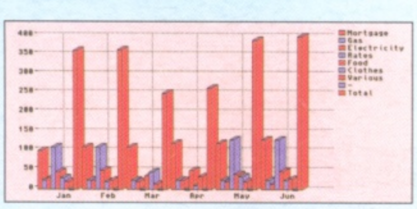
EasyCalc 2

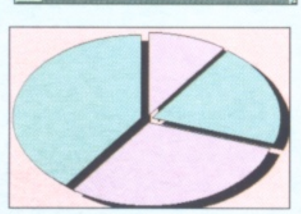
The Amiga's best PD spreadsheet, which is powerful and has tonnes of features including graph creation. Awarded a Star buy in AS52, you must check this out.



MRBackup 2.21

Don't be caught out – make sure your data is safely backed up with this fantastic program.





Protext 4.3

Last month (AS53), we gave away the Program disk, now we have the full Utilities disk that includes the dictionary and printer drivers, plus tutorials to help you get the most out of the program.

